The RUBBER AGE

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LATE NEWS of the Industry

Higher Prices for Crude Rubber Are Predicted Within Next Year

F. R. Henderson, Former Rubber Exchange Head, Sees Production Declining at Present Prices With Potential Consumption Gaining And Only Awaiting a Fair Return to Normal Conditions

AN interesting survey of the present situation in the crude rubber market and a prediction that rubber prices will advance to considerable higher levels within the next year has been prepared by F. R. Henderson, formerly president of the Rubber Exchange of New York and now associated with Clark, Childs & Keech, 11 Broadway, New York, N. Y. The statement, in part, follows:

The production of rubber during the first six months of 1932 is about 45,000 tons less than in the corresponding period of 1931. The closing down of estates has been increasing and the reduction in production will show a bigger increase in the second six months than in the first. The last official figures issued in Batavia, Java, announced that at the end of May 24 per cent of the rubber area in the Netherland East Indies was out of tapping. This compares with 18 per cent out at the end of April and ten per cent out at the end of January. No fewer than 383 Dutch estates have abandoned tapping completely. Others have abandoned tapping on their higher cost sections and the reduction in native output has been even greater.

"While there are no definite figures regarding the closing down of estates in Malaya, it is known that many have already closed and others are on the point of closing. Some have attempted refinancing with discouraging results. The only method of refinancing that seems possible is through an assessment of shareholders and there is nothing in the price of rubber today to promise very much success along these lines.

"There are two points which we think touch the fundamentals. First, well financed estates are turning out every possible pound of rubber to keep the cost per pound as low as possible. The estates which have no cash will have to close down regardless of indications of higher prices and as we have repeatedly pointed out, once they close down it will be many months before they can reopen. Second,—and from a market standpoint this is very important,—the surplus of rubber in the world is concentrated in stronger hands than at any previous time in the history of the industry. There are no surplus stocks anywhere in the world except in England and America. The English stock is admittedly almost entirely ear-marked through sales for future delivery against which the rubber is being carried.

"The stock in America is 80 per cent in the hands of large tire manufacturers, the balance partly ear-marked against sales for future delivery. Our estimate of available rubber in the world markets is about 50,000 tons.

"It is fair to assume that the rubber taken by countries outside of America and England has been for consumption only. This brings us to the factor which in our judgment has not received due consideration. The Lausanne Conference might be considered the beginning of a forward

Scanning the Headlines

CONSUMPTION *of crude rubber drops during July and stocks remain high . . .* GOODRICH *shows loss of* $710,000 *for first six months of the current year . . .* HENDERSON *comes out bullish on crude rubber prices . . .* INDIA TIRE *and Rubber Company report favorably on their six-hour shift program . . . National Safety Council, Rubber Section, announces the program of papers for the coming Washington Congress . . .* RUBBER ASSOCIATION *makes vigorous protest at Washington against cheap footwear importations from Japan and Czechoslovakia . . . Tire shipments and output from factories reach high record for the year during June . . .* GOODYEAR *shows net profit for the first six months of* $50,500 *. . .* MINCING LANE *incorporates as a full-fledged rubber trading company.*

move in Europe. Rubber plays a vital part in the development of reconstruction work of any nation today and the present price of rubber would justify the building up of inventories on the part of European rubber companies, which could easily absorb all of the available rubber in the world's markets.

"We are not taking a stand that there will be any scarcity of production, but we do firmly believe that for what the world needs next year a considerably higher price of rubber must prevail. It is not a question of how cheaply some estates can produce but rather what price must we reach to get what we need. It is plain economics and it is also perfectly natural that with a better feeling in the world generally, attention is directed to a commodity that seems necessary in the first place, well situated statistically in the second place and most likely to respond to the psychology of people as a whole that we are to progress after all.

"We believe that rubber is destined to sell at a considerably higher price level."

Record High Shipments and Output Of Tires Reported During June

SHIPMENTS of pneumatic casings for the month of June were the highest on record, amounting to 10,366,640 casings, an increase of 143.5 per cent over May this year, and were 86.1 per cent above June, 1931, according to statistics released by the Rubber Manufacturers Association, Inc.

This association reports production of pneumatic casings for June to be 5,643,329 casings, an increase of 47.7 per cent over May this year, but were less than 1 per cent below June, 1931.

Pneumatic casings in the hands of manufacturers June 30 also reached a low point for all time, amounting to 4,625,021 units, a decrease of 50.7 per cent under May 31 and 55.7 per cent below June 30, 1931.

The actual figures are as follows:

Pneumatic Casings

	Shipments	*Production*	*Inventory*
June, 1932	10,366,640	5,643,329	4,625,021
May, 1932	4,258,116	3,820,063	9,378,691
June, 1931	5,571,886	5,672,463	10,447,210

Consumption of Rubber Drops in July, Imports Also Decline; Stocks Still High

CONSUMPTION of crude rubber by manufacturers in the United States for the month of July amounted to 28,272 long tons as compared with 39,116 long tons for June, 1932, and represents a decrease of 27.7 per cent, according to statistics released by the Rubber Manufacturers' Association.

The Association reports imports of crude rubber for the month of July to be 31,078 long tons, a decrease of 24.9 per cent below June, 1932, and 24 per cent below July a year ago.

Estimates of total domestic stocks of crude rubber on hand July 31st, stood at 346,335 long tons, which compares with June 30th stocks of 345,702. July stocks show practically no percentage change as compared with June of this year, but were 47.5 per cent above the stocks of July 31st, 1931.

The participants in the statistical compilation report 37,894 long tons of crude rubber afloat for the United States ports on July 31st. This compares with 43,079 long tons afloat on June 30, 1932, and 50,155 long tons afloat on July 31st, 1931.

Goodyear Shows Net Profit for First Six Months of 1932 of $50,509

GOODYEAR Tire and Rubber Company reports for six months ended June 30, 1932, consolidated net profit of $50,509 after depreciation, interest, federal taxes and mark-down to market prices of raw material and raw material content of finished goods, etc. This is equivalent to 6 cents a share on 762,023 no-par shares of $7 preferred stock and compares with net profit of $4,221,770 equal after preferred dividend requirements, to $1.06 a share on 1,435,137 no-par common shares in first half of 1931.

Net sales for first six months of this year were $68,953,780 comparing with $83,228,661 in the first half of 1931.

Total assets on June 30, 1932 amounted to $206,467,276 compared with $207,362,693 on December 31, last, and $223,927,530 on June 30, 1931. Current assets were $104,062,876 and current liabilities were $11,938,497 compared with $98,954,632 and $9,694,773 respectively on December 31, last, and $115,998,246 and $14,586,028 at the end of June, 1931.

Cash and Canadian and U. S. Government securities on June 30 were $41,797,727 against $37,612,922 on December 31, 1931.

Consolidated income account of the company for six months ended June 30, 1932, compares as follows:

	1932	1931
Net sales	$68,953,779	$83,228,661
Exp., depr. and federal tax	68,272,930	77,332,264
Operating profit	$680,849	$5,896,397
Other income	1,362,596	697,534
Total income	$2,043,445	$6,593,931
Interest, discount, etc.	1,515,836	1,678,696
*Other deductions	477,100	693,465
Net profit	$50,509	$4,221,770
Preferred dividends	2,668,956	2,704,219
Common dividends	.....	2,154,791
Deficit	$2,618,447	$637,240

Consolidated balance sheet of the company as of June 30, 1932, compares as follows:

Assets

	1932	1931
*Property and plant	$92,862,624	$97,964,834
Investments	5,953,442	6,649,062
Inventories	32,191,030	53,668,497
Accounts and notes receivable	30,074,118	25,787,166
Canadian call liens and government securities	4,194,150	3,807,007
U. S. government securities	16,792,159	3,997,000
Cash	20,811,418	28,758,575
Good will, etc.	1	1
Deferred charges	3,588,334	3,315,388
Total	$206,467,276	$223,927,530

Liabilities

$7 1st preferred stock	‡$76,202,325	$78,457,900
Common stock	†1,618,430	1,605,539
Capital stock of subsidiaries	16,445,594	17,636,383
Funded debt	55,420,000	56,249,500
Funded debt of subsidiaries, etc.	5,078,569	6,535,327
Rubber in transit	315,385	494,506
§Accounts payable	11,016,395	12,354,119
Accrued dividends and interest	606,716	1,737,404
Reserves	4,368,508	4,179,516
Paid-in surplus	21,867,604	21,518,619
Earned surplus	13,527,750	23,158,717
Total	$206,467,276	$223,927,530

*After depreciation. †Represented by 1,448 027 no-par shares. ‡Represented by 762,023 no-par shares. §Includes federal taxes.

Mincing Lane Incorporates as the London Rubber Exchange Company, Ltd.

THE Rubber Trade Association of London, which was formed in 1913, and which has been the ruling trading body in crude rubber in Great Britain, has never been incorporated. In 1923 the Association leased offices in Mincing Lane for the purposes of centralizing their trading activities, which has since come to be known as the London Rubber Exchange.

But for some time it has been suggested that the Association have some corporate entity and after investigation by a committee the Association took definite action at a meeting on July 25, by organizing the London Rubber Exchange Company, Ltd., with a nominal capital of £48,350 in 100 management shares of £1, and 840 founders' and 125 ordinary shares of £50 each. There will be no public issue of shares in the new company, but shares will be issued to members of the Association only. The Association will continue to exist and will remain the ruling body of the trade responsible for the making of rules, drawing up contracts, etc. Any business activities of the Association will be taken over by the new company.

The particulars of registration of the London Rubber Exchange Company, Ltd., state that its objects are to obtain and provide, regulate, and maintain, a suitable building, room or rooms for the purposes of a Rubber Exchange and for facilitating the conduct of mercantile business, and in particular for facilitating the settlement of contracts for the purchase and sale of rubber, etc. This wording has led some people to suppose that a building program, or the acquisition of a new building, is to be embarked upon, and on this assumption certain newspapers have actually commented on the Trade's intrepidity in venturing on such a program with rubber at its present price. It is understood, however, that there is no intention for the present of acquiring or erecting a new building.

The directors include H. D. Cowan, A. O. Devitt (a managing director of Lewis & Peat, Ltd.), H. B. Figgis (of Samuel Figgis & Co., produce brokers); W. Fletcher, G. Hankin, H. T. Korsten, R. P. Kaufman, F. O. Laughland, C. Mann (director of the Sendayan (F.M.S.) Rubber Co.), H. E. Miller (chairman of Harrisons & Crosfield, Ltd), and eight others.

The present office is at 6 Mincing Lane, E.C. 3, London.

Rubber Association Protests Against Importation of Cheap Foreign Footwear

FOLLOWING a protest against the importation of several million rubber-soled tennis shoes of Japanese manufacture, and their sale through a well-known 5-and-10 cent chain of stores, an increase in the duties on canvas rubber-soled footwear has been petitioned by the domestic manufacturers through the Rubber Manufacturers' Association. The petition filed with the Federal Tariff Commission is receiving favorable consideration.

The petition of the domestic manufacturers declares that the foreign articles from Japan and also Czechoslovakia were being sold in this country at less than production costs. An anti-dumping order was requested by the domestic interests, who contended that unless such action was taken it would be necessary to close a number of plants and throw about 15,000 workers out of employment. It was stated that Japan has control of the domestic market at present and that imports from that source have increased 600 per cent in the last six months.

In furtherance of the program of the Rubber Manufacturers' Association to promote the sale of only American made rubber-soled footwear and against the foreign importations, the following letter has been sent to all retailers of shoes in the United States and a poster has been included, suitable for pasting on display, stating that only American rubber or canvas footwear is offered for sale in such establishments.

THE RUBBER MANUFACTURERS' ASSOCIATION
(Incorporated)
250 West 57th Street
New York City

TO PURCHASERS OF RUBBER AND CANVAS FOOTWEAR:

The world-wide economic upheaval of recent years has resulted in increasing unemployment and distress for a large body of American workmen—and in an attempt to help this situation, Congress has enacted laws which drastically restrict immigration into this country.

However, the same cheap labor which is thus kept beyond our borders is being used in its own country to make products with which this country is being flooded at prices with which American labor cannot compete.

Of late, Rubber and Canvas Footwear from Czechoslovakia and Japan has been offered here, which is being made under deplorable conditions in these two countries and the labor cost of which is measured by an average of 2c to 3c per hour.

Under these conditions, naturally the exports of such countries increase enormously to the detriment of American-made products.

While, of course, all of the Cheap Rubber and Canvas Footwear made in these countries so far, has not come into the United States, we believe the possibility of large increases in such importations constitutes a serious menace to the return of normal employment conditions in this country.

Under these conditions, we respectfully urge you to consider

AMERICA FIRST

in your purchase of commodities for use or resale—believing that the American public will support your interest in goods produced under a decent scale of living, and will eventually refuse to purchase commodities which represent the exploitation of foreign labor and harm to American institutions.

Very truly yours,

The Rubber Manufacturers' Association, Inc.

Goodrich Reports Net Loss of $710,000 After Writing Down Rubber and Cotton

CONSOLIDATED net sales of the B. F. Goodrich Company during the first six months of 1932 amounted to $47,183,000 compared with $59,878,000 for the same period in 1931, the decrease amounting to 21 per cent, according to a statement issued by the company, following the meeting of the board of directors in New York on August 9. Although dollar sale showed a marked decline due mainly to lower level of selling prices unit sales of tires showed an increase. Operations for the six months resulted in a profit of $1,022,000 after full provision for depreciation and interest and including a profit arising from purchases of the company's bonds and debentures.

From the profit of $1,022,000 was deducted $1,733,000 representing writedown to market prices on June 30 for rubber and cotton on hand and on commitment. The net loss after writedown amounted to $710,000 compared with a loss of $288,000 during the first six months of 1931. Following the mid-year practice of the company, material content in semi-finished and finished goods was valued at cost. Current assets on June 30 amounted to $64,626,000—including $14,567,000 of cash and marketable securities—and current liabilities to $6,515,000 giving a ratio of 9.92 to 1.

(Other news of the industry will be found on Pages 405-410)

National Safety Council Congress

THE following program of papers has been approved for the meeting of the Rubber Section of the National Safety Council Annual Congress, to be held in Washington, October 3 to 7, 1932. The acting general chairman of the Rubber Section is J. R. Hanson, United States Rubber Company, Passaic, N. J., and the secretary is H. W. Low, Miller Rubber Products Company, Akron, O.

Program of Papers

Wednesday Morning

October 5, Wardman Park Hotel
Second Floor, Room 200 C

Report of Year's Activities,
Acting General Chairman J. R. Hanson.

Trend of Accidents in the Rubber Industry,
Roland Kastell, Chairman, Statistics Committee.

Are We Making the Most of Our News-Letter?
Charles F. Smith, News-Letter Editor.

Safety as Applied to Conveyors,
(Speaker to be announced.)

Is Carbon Tetrachloride a Health Hazard as Used in the Rubber Industry?
Dr. J. Newton Shirley, Arrow Mutual Liability Insurance Co., Watertown, Mass.

Report of Nominating Committee and Election of Officers.

Thursday Afternoon

October 6, Wardman Park Hotel
Second Floor, Room 200 C

Safety Kinks in the Rubber Industry,
B. F. Gerpheide, Safety Director, The Goodyear Tire & Rubber Co., Akron, O.

Presentation of Rubber Section Safety Contest Awards,
E. W. Beck, Supervisor of Safety, United States Rubber Co., New York City.

Accident Costs (Round Table).
Discussions led by W. D. Stearns, Manager of Industrial Relations, United States Rubber Co., Passaic, N. J.

Cooperation,
Walter Schaefer, President, Casualty Underwriters Assn. of N. J., Newark, N. J.

Court of Injury,
Directed by H. W. Low, Safety Engineer, Miller Rubber Products Co., Akron, O.

Six-Hour Shifts at India Tire & Rubber Co.

AN ACCOUNT of the facts and circumstances incidental to the adoption of the 6-hour shift system by the India Tire and Rubber Company was recently furnished to the Bureau of Labor Statistics of the Department of Labor by Mr. J. E. Lorentz, general superintendent of the company.

Although the establishment of the 6-hour shift system in this plant is a development of conditions of manufacturing peculiar to certain operations in the industry, it has proved so satisfactory from the standpoints of improved production, reduced labor costs, and reduction in absenteeism that it has been gradually extended to other departments of the plant.

The plan was first applied in the curing or vulcanizing department of the plant—commonly called the "pit"—in the summer of 1931. In this department the work is hot and humid and considerable skill is required. Tire demand is naturally highest in the hot season and full 7-day (24 hours) mold operation is commonly necessary in this department. The attempt to keep the men at work for 8 hours per day 7 days in the week had not proved satisfactory over a period of several years from the standpoint of production and of operating costs. The experiment of introducing one more shift of curing men was therefore tried, with the following results: (1) One-third more workmen were given employment; (2) loss of production was reduced so that at no time did it exceed 5 per cent, with many days showing a perfect score; (3) absences which had been an appreciable factor on the 8-hour basis declined almost to the vanishing point; (4) the labor cost per unit cured declined 8.2 per cent.

The reduction in labor cost was computed by comparing two months in which conditions were identical with the exception that in one month the work was on a 3-shift basis, and in the other on a 4-shift basis.

After watching this installation for a few months, covering both the busy and slack seasons, it was decided to begin extension of the 4-shift system to other departments of the plant. At the present time most of the workmen are on the 6-hour basis, but it has not yet been applied to salaried employees, although it is said that eventually it will be extended to include everyone.

The direct savings as a result of the extension of the plan are less easy to compute than those of the vulcanizing department because of general rate reductions that have taken place in the past 12 months throughout the industry, but it is considered that the savings are at least equal to those secured in the first instance. No upward adjustment of rates was made when the 6-hour shift was installed.

In conclusion Mr. Lorentz states: "We have not attempted to outline the sociological advantages incident to shortened working periods and the employment of men who otherwise would have no work. All of these have been pointed out in other articles. Our experience bears out all of these advantages and the plan, in general, seems entirely sound and workable."

World Gasoline Prices

THE following tabulation shows the prices for gasoline in various localities in the world during the first quarter of 1932, as compiled by the Department of Commerce. Gasoline sold highest in Addis Ababa, Ethiopia, and lowest in Tokio, Japan.

	U. S. Cents per Gal.
Australia, Adelaide	38.2
British Malaya, Singapore	39.7
Chile, Santiago	41.3
Czechoslovakia, Prague	28.0
Ethiopia, Addis Ababa	54.0
Japan, Tokio	14.4
Panama, Panama City	22.0
Society Island, Tahiti	24.8
Zanzibar	41.0

Temperature Signaling Device

A TEMPERATURE signal device for determining temperature by means of electric lights, and known as the Thermo-tel, has been developed by the Uehling Instrument Company of Paterson, N. J. The instrument consists of different colored electric lights, actuated by changes in temperature. When the temperature is within the limits for which the instrument is set, a white light will illuminate, when the temperature is above the limits, a red light will illuminate, and when the temperature is below the limits, all lights will be out. Each Thermo-tel signal is set for the particular limits desired. A glance at the colored lights will definitely determine whether the temperature is high, low, or within said predetermined limits. If desired, the signaling lights may be located at any distance from the temperature which is being observed.

ABSTRACTS of PAPERS

Presented at Denver Meeting *of Rubber Division*

Eight Papers Covering Wide Range of Subjects Presented—Election of New Officers to Be Held

AS we go to press the 1932 Fall meeting of the Rubber Division is being held on August 23 and 24 in Denver, Colorado, in conjunction with the 84th annual meeting of the American Chemical Society. From indications prior to the meeting it was expected that about 50 members and guests would attend the sessions of the Rubber Division, which number would assure a successful meeting.

The papers to be presented were fewer in number than usual, only eight being scheduled, but they covered a wide range of subjects including zinc oxides, variable temperature cures, time-temperature relations, chloroprene-plastic polymers, polymerization of chloroprene, temperature coefficients and batch control—all of which would undoubtedly prove of interest.

In addition to the papers, abstracts of which are given below, the annual election of officers was scheduled to be held. A complete report of the meeting will be published in our next issue. The abstracts follow:

Some Factors Involved in the Banbury Mixing of Zinc Oxide

W. C. MATHEWS AND G. S. HASLAM, *New Jersey Zinc Co.*

The laboratory Banbury mixer is used to evaluate the mixing characteristics of various (commercial and experimental) samples of zinc oxide, and to act as a guide in establishing the variables in mixing procedure which may be of importance on commercial units.

The several types of zinc oxide vary in the ease with which they incorporate into rubber and in the excellence of the dispersion finally obtained, these two variables being mutually independent. The effect of particle size and condition of the surface on these properties of the mix has been studied. The mixing procedure used also affects the ease of incorporation and final dispersion. The effect of the type of rubber used, temperature, softeners, ram pressure, rotor speed, loading factor, pigment-rubber ratio, rate of addition, water addition, sheeting off and subsequent milling, rotor clearance, and power consumption is discussed.

While procedures established on the laboratory machine cannot be followed directly on commercial installations it has been found possible to translate the results of these experiments into factory practice with a reasonable amount of experimentation on the larger unit. The evaluation of the mixing characteristics of oxides on this machine have also been found to correlate well with those obtained commercially.

The Effect of Particle Size on the Physical Properties of Rubber

G. S. HASLAM, *New Jersey Zinc Company*

The particle size of the pigment may be expressed in terms of several average diameters depending on the method of measurement. In this work three of these averages were considered: namely, d_1 which is the arithmetical mean, d_3 which is the average diameter from which specific surface is calculated, and D which is the average diameter from which the number of particles per gram is calculated. A series of samples was prepared and these three average diameters were determined. These samples were then compounded with rubber and several physical properties measured.

As a result of these tests it is shown that, in general, the physical properties vary directly as the specific surface and the number of particles per gram. However, if the number of particles per gram is maintained constant and the specific surface is varied, it was found that the physical properties vary directly as the specific surface. No such relationship was found when the specific surface was maintained constant and number of particles per gram varied. It is further pointed out that the only satisfactory means of measuring the d_3 diameter and, therefore, the specific surface is by some microscopic method which determines the size distribution curve for the pigment.

Evaluation of Variable Temperature Cures

G. K. HINSHAW, *Goodyear Tire and Rubber Company*

The paper explains by simple analogies the theory of the method by which it is possible to evaluate the vulcanizing effect of a heat treatment, which varies with respect to both temperature and time of cure, in terms of the length of time at any preselected temperature which will give the same vulcanization effect. This is defined as the "equivalent cure."

A concise set of working directions for the application of the method to a specific problem is presented. As a further extension of the method it is shown how it is possible, by knowing the temperature rise curve under a given set of time-temperature conditions, to calculate a temperature rise curve for another set of time or temperature conditions, and from this arrive at the "equivalent cure."

Slide Rule Calculation of Time-Temperature Relations in Vulcanization

J. H. FIELDING

This paper covers that type of time-temperature calculation in which no temperature lag is involved, and where some form of graphical integration would normally be unnecessary. Rate of vulcanization increases with temperature and the relation is logarithmic. The ordinary slide rule is built on the logarithmetic principle and from that fact is adaptable to time-temperature calculations.

One of the logarithmetic scales is used for time values and a uniform scale (either the "L" scale or a specially constructed scale) is used for actual temperature values. With a rule so arranged it is possible to convert cures from one temperature to another with only one setting. Speed, convenience, and accuracy are its outstanding features.

Some Factors Affecting the Rate of Vulcanization of Chloroprene Plastic Polymers

E. R. Bridgwater and E. H. Krismann, *E. I. du Pont de Nemours and Company*

The rate of vulcanization of chloroprene plastic polymers and the range of cure and physical properties of the vulcanizates are profoundly affected by the addition of various metallic oxides, sulfur, certain acidic softeners, and other organic compounding ingredients. These effects are, in general not produced except when the above-mentioned materials are used in specific combinations with one another.

Determination of the Temperature Coefficient of Vulcanization. II.

R. V. Sandstrom.

The temperature coefficients have been determined for stocks accelerated with tetramethylthiuram disulfide, and a butyraldehyde-aniline condensation product. Cures were made at 10° F. at intervals from 310° F. to 220° F. Cures were also made in a constant-temperature oven in a bolted mold at 210°, 185°, and 160° F. The lower temperature cures were made to determine whether the coefficient changed in this range. The values obtained from modulus and combined sulfur data were found to be 1.438 and 1.548 respectively for tetramethylthiuram disulfide and 1.672 and 1.625 respectively for the butyraldehyde-aniline condensation product. These values are for 10° F. intervals. It was found that the coefficients did not change at the lower temperautres.

The Effect of Oxygen and Water on the Polymerization of Chloroprene

Ira Williams and H. W. Walker, *E. I. du Pont de Nemours and Company.*

Oxygen increases the rate of polymerization of chloroprene and tends to promote the formation of thermoplastic polymer rather than α-polychloroprene, but it is not necessary for either the polymerization to α-polymer or for the conversion of α- to μ-polychloroprene during vulcanization.

Traces of suspended water in massive chloroprene accelerate the polymerization mildly. The polymerization in emulsions of the chloroprene-in-water or water-in-chloroprene type with oriented polar dispersing agents such as sodium oleate proceeds rapidly to μ-polymer. The nature of the polar interface appears to be the prime factor in causing the rapid polymerization of these emulsions.

In addition, it appears that the chloroprene must be confined between two polar interfaces, the distance between which is of the order of 1-μ or less.

Rubber—Pigment Ratios in Batch Control

Howard L. Wiley, *Gates Rubber Company.*

The viscosity, plasticity, and elasticity of rubber mixes have been investigated in the raw and cured state. One, two, or all of these properties may be present at the same time and have a direct ratio to the quality of the mix. They may be calculated or measured and serve as a criterion of dispersion in the batch. The percentage dispersion of the pigments in the batch is the quotient of the actual instrument readings divided by the calculated readings. They can be taken by a modified Shore elastometer and durometer. Ample illustrations are cited to support the conclusions.

Farrel Bale Cutter

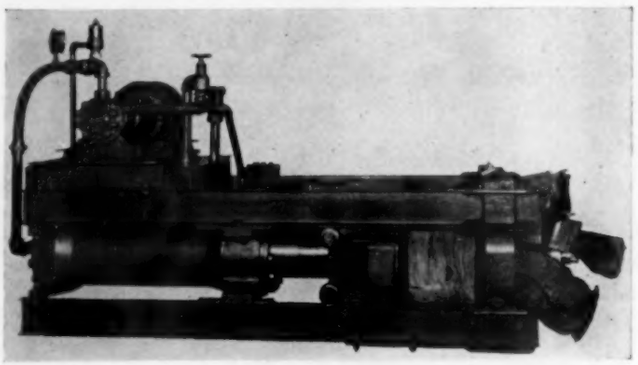
A NEW medium-priced bale cutter is being introduced to the industry by Farrel-Birmingham Company, Ansonia, Conn. The machine is of the horizontal, hydraulic type, employing slicing and extrusion principles for cutting. It is of simple construction, light in weight and, being self-contained, can be installed in any part of the plant where suitable electrical connection can be provided.

The rubber is cut without the use of water in contact with the bales. Frozen rubber or baled latex present no difficulties and soft rubber is readily cut by a simple adjustment of the pressure.

The frame is built of standard structural steel sections welded into an integral unit to provide rigid support for the other parts of the machine mounted on the frame.

The operating medium is oil supplied to the hydraulic cylinder under pressure by a ball bearing, gear impeller pump driven by a 15 h.p., 1200 r.p.m., alternating current, squirrel cage motor.

The cutting head has ten knives made of heat treated alloy steel, arranged in a basket-like form, radiating from a central cone to the outer holders welded into the main



frame. With this arrangement the bale comes into contact with the outer ends of the knives first, the effect being a stretching and slicing action which greatly facilitates cutting owing to great reduction in side friction on the knives, permitting a comparatively light machine which can operate under low pressure and requires little power.

The cutter makes a complete cycle in one minute, so that if material handling conditions, before and after cutting, are favorable, the production could be 50 to 60 bales per hour. If a run of soft rubber bales is encountered the production would be a little less, for in actual practice it is found desirable to lower the pressure on the ram when cutting soft rubber, which consequently slows down the speed of the cutter. Soft rubber has a tendency to "balloon" or "pancake" under high pressure and requires time to "flow" to relieve the wedging effect. High pressure retards this relief movement.

The rubber is cut and extruded in wedge-shaped pieces which are easily fed between rolls or into the Banbury Mixer. It is also quite easy to tear the pieces apart to make up batches of any desired weight.

Non-Tarnishing Compounds

RUBBER manufacturers are occasionally called upon to furnish their customers vulcanized rubber parts that will not tarnish metals such as gold, silver, nickel, etc. Before the introduction of ultra accelerators to the rubber industry, this was not possible, as up to that time sulphur or sulphur chloride were the only vulcanizing materials available to the rubber industry. Today however, it is possible to produce good vulcanized compounds not containing any free sulphur, by the use of certain accelerators. A typical base compound of this class is shown below. To this compound may be added any of the ordinary rubber compounding materials that do not contain any free sulphur.

Rubber	100. parts by weight
Zinc Oxide	10. parts by weight
Ultra Accelerator	3. parts by weight

R. R. Olin Laboratories, Akron, O.

The Evolution of the AIRWHEEL TIRE

Designed Primarily to Meet the Needs of Aviation It Has Threatened to Succeed the Present Balloon Type as Automobile Equipment

By R. D. EVANS
Goodyear Tire and Rubber Company

THE "Airwheel," under which name the Goodyear Tire and Rubber Company has introduced to the airplane and automotive industries a new ultra-low pressure tire, has been under development for several years.

The demand for this sort of tire arose within the airplane industry from a desire for softer and easier landings and for a larger energy absorbing capacity in the landing gear. There was also need, in the landing gear as a whole, for a better ability to withstand the severe lateral thrusts which occurred in ground-looping and side-slip landing and which were a very frequent source of landing gear failures; and perhaps most important of all was the need for a tire which would permit operations on various types of soft terrain, such as dry sand on beaches and desert areas, and on the very soft mud encountered at certain times of the year on most airports.

Operates at Low Inflation Pressures

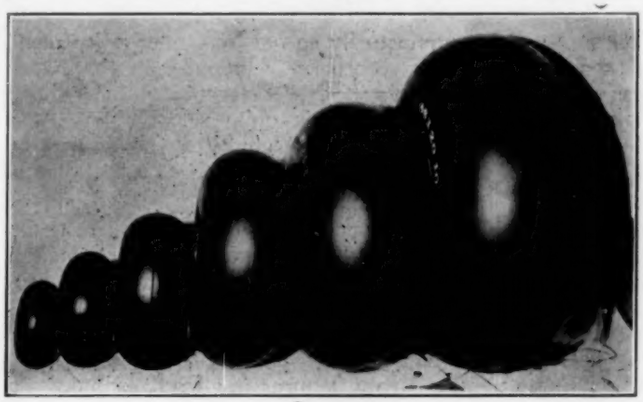
The Airwheel is a tire of unusual proportions, with a rim diameter only one-fifth of its overall diameter, and a width almost half of its overall diameter. Designed to operate at very low inflation pressures, it has certain unique performance characteristics, as follows:

1. When a plane lands, the energy of its vertical velocity must be absorbed by the tires and shock struts acting in coperation. The Airwheel, which has an energy-absorption and a deflectability more than twice as great as regular tires, "softens" landing impacts and landing-gear stresses to a marked degree, particularly when the vertical velocity of the plane is large, as in "pancake" landings.

2. When a plane makes a side-slip landing, or ground loops, large laterally directed thrusts are developed in the landing gear. With high-pressure tires on large-diameter wheels, such thrusts are a prevalent cause of landing-gear failures. This failure ordinarily involve, if indeed they are not begun by, wheel collapse. With Airwheels such a condition is impossible because there is no wheel to collapse, and the large and easy lateral deflectability of the Airwheel reduces the peak values of lateral thrust, thereby providing a great margin of protection to all parts of the landing-gear structure.

3. Because of the very low unit pressures, it is possible for Airwheel-equipped planes to take off, land, and taxi around on soft terrain such as soft mud, dry sand, etc., in which high-pressure tires would "bog down" hopelessly. On dry sand, a two-rope test showed that it required four times as much pull to drag a plane along on high-pressure tires as on Airwheels. This difference obviously represents the difference between absolute non-maneuverability and comparatively easy maneuverability of a plane on such terrain.

In view of the fact that Airwheels on airplanes had given such an excellent account of themselves on all kinds of soft ground conditions, largely because of the low pressure in the tire and the correspondingly low unit pressure against the soft and yielding surface whether dry sand, soft mud, or snow, it was applied next to tractors operating on sandy soil, on airports, golf courses, and the like. Such operations are all at very low speed and there were no particular problems from the standpoints of stability, treadwear, braking, or high temperature. Such applications have continued to be entirely successful.



Various Sizes of Goodyear "Airwheels"

The application of ultra-low pressure tires to passenger cars has followed rapidly. To permit change-overs without modification of existing axle, fender, or steering gear layout, larger rim diameters than in airplane Airwheels are necessary, but the same range of low air pressure (12 to 22 pounds) is retained. At the moment, the industry seems to be temporarily stabilized in the matter of tire proportions, as follows: the rim diameter is about one-half the overall diameter, and the width is about one-fourth to one-third of the overall diameter.

These low pressure tires have so far met with an eager acceptance which may be partly due to the appeal of novelty, but which certainly contains some elements of satisfactory performance. If properly serviced, these tires should give mileage comparable to regular balloon tires, and should be no more susceptible to punctures, cuts, bruises, or other hazards of the road. Operating as they do

EDITOR'S NOTE: This paper was presented before the Cleveland Section of the Society of Automotive Engineers, May, 1932, and is reprinted with permission of the Society.

at pressures approximately half of those used in conventional balloon tires, their ability to "envelop" small road obstacles and roughnesses is very marked. It is possible that one who has changed over from conventional balloons to low pressure tires might find a greater tendency to bounce on certain types of road, but this is a problem which we

Tractor with Airwheels Pulling Cultivator

feel sure will be satisfactorily solved by proper adjustment of springs and shock absorbers. Undoubtedly they have less tendency to skid on smooth wet streets and their ability to negotiate soft mud roads is quite remarkable. Also they appear to have an unusual ability to take turns at high speed without giving the driver any feeling of insecurity.

Just as, eight years ago, when the balloon tire with its inflation of thirty to thirty-five pounds displaced the high pressure tire which carried twice as much inflation, certain problems required the cooperation of tire manufacturers, automobile manufacturers, and the service men in the field, so now the Airwheel, or ultra-low pressure tire of whatever name or manufacturer is already bringing up similar problems calling for exactly the same group cooperation.

Protective Coating for Rubber

A WATER wax emulsion called Hydrowax Liquid is being offered by the Glyco Products Company, Inc., Bush Terminal, Brooklyn, N. Y., as a protective coating for rubber and other materials such as leather, metal, straw, paper and plaster. The material contains no oils or inflammable solvents and may be applied by brushing, tumbling, spraying or dipping. The manufacturers state that not only is the finish protected against weathering but the cost is less than that of lacquer or varnish.

Tetrone A

A NEW accelerator and vulcanizing agent for use without added sulphur is being introduced by the Rubber Chemicals Division of the E. I. DuPont de Nemours and Company, under the trade name Tetrone A. Its chemical designation is Di-pentamethylenethiuramtetrasulfide.

The manufacturers recommend quantities from 1.25 to 1.75 per cent of the new material, based on the rubber content, to produce fast curing compounds that are safe to handle under normal factory conditions, that have a long range of cure, that do not discolor or stain metals, that are bright in color and do not discolor in sunlight, that have good heat resistance and are non-blooming. Tetrone A is suitable for press, dry heat or open steam cures.

Netherlands Tire Market

TIRE sales in the Netherlands during the second quarter of 1932 improved, owing to the seasonal demand and necessity for replacement after extended use, according to a survey of the Department of Commerce. Tires on the road are in worse condition than ever before, and it is believed that more replacement business must be experienced in the near future.

On the whole, stocks of importers are believed to be lower than last year at this time, in view of the desire to keep investment reduced, while dealers are also low on the average, with exception of a few "centrals" which have stocked heavily of Englebert at reduced prices.

Imports of automobile tires over the first five months of the present year were higher for casings and lower for tubes than during the corresponding period of 1931.

Total imports of casings amounted to 76,430 units, as compared with 70,577 last year. England has now taken a commanding position, with a total of 22,075, thus substantially exceeding the United States, which stands at 19,872, and coming fairly close to the 24,407 from the United States and Canada combined. Imports from the United States itself, however, are considerably above those last year. Those from Belgium and Germany are practically on the same levels. From France receipts are substantially lower, while those from Italy are somewhat higher. With total imports above last year's, both Great Britain and the United States have increased their shipments.

Inner-tube imports amounted to 51,412 pieces, as compared with 56,316 last year, the United States ranking first with 15,830, and England second with 11,303.

Imports of casings from the United States represent about 25 per cent of the total as compared with 20 per cent last year. Inner tubes comprise 30 per cent, as against 16 per cent. Casings from United States and Canada represent about 32 per cent in 1932, as compared with 30 per cent in 1931. Inner tubes represent 39 and 25 per cent, respectively.

The French Michelin has brought on to the Netherland market what is termed a "superballoon" tire for passenger cars, which, it is claimed, provides the advantages of the "airwheel" tires without requiring new wheels to be placed on the car, but according to the trade this is, as the name suggests, a balloon tire and not an "air wheel."

For some time the Belgian Englebert has been an increasingly important factor in the Netherland market and probably stands today in the lead among various makes. Not only does this firm have an advantage in having its product used as original equipment on American automobile assemblies coming from Belgium, but it is reported as extending discounts which are far above other traders in the territory, while a lower priced line which it introduced has been having good sale.

Michelin is said to be getting an increasing share of the bus and truck tire business with a balloon tire which was introduced at great advertising expense.

Under the stress of circumstances, an important change is occurring in the Netherland market, as heretofore the Dutch were quality tire buyers, but today price is a primary consideration, and a second line of tires put out by various manufacturers at lower prices is increasing in sales.

Rubber Footwear Census

ACCORDING to a preliminary report on the Census of Manufactures, just released by the Bureau of the Census, the 1931 production of rubber footwear amounted to $48,005,633, a decline of 56.9 per cent from $111,359,622 in 1929, the last preceding census year. The number of establishments in the industry dropped from 22 to 15, and the average number of wage earners, not including salaried officers and employees, declined from 25,659 to 15,882, while wages of $13,769,928 were 54 per cent less than were paid out in 1929.

Production of canvas rubber-soled shoes was better maintained than that of other types, although a total of 48,081,610 pairs was 36 per cent under the 1929 figure. The percentage decline of rubber boot production was the largest in the industry—1,970,785 pairs compared with 5,453,865 pairs in 1929, or 64 per cent.

The following table shows rubber footwear production, by classes, during the two years:

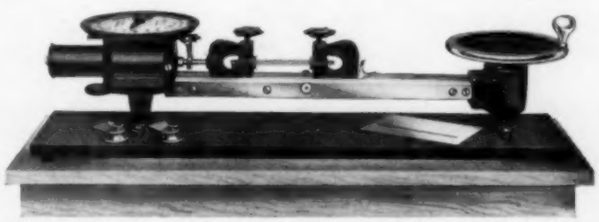
	1931		1929		*Percentage Decline-Quantity*
	Pairs	*Dollars*	*Pairs*	*Dollars*	
Rubber boots	1,970,785	4,775,242	5,453,865	16,140,851	—63.9
Rubber shoes and overshoes:					
Lumbermen's ..	983,378	2,088,921	1,817,078	4,171,728	—45.9
Artics and gaiters 10,989,516		14,661,143	19,244,673	31,722,333	—42.9
Other rubber shoes, rubbers, and footholds 14,171,622		9,325,318	30,294,867	28,989,431	—53.3
Canvas rubber-soled shoes ..28,081,610		17,155,009	43,954,011	30,335,279	—36.2
Total 56,196,911		48,005,633	100,764,494	111,359,622	—44.3

The consumption of crude rubber in the manufacture of rubber footwear amounted to 11,210 long tons in 1931 as against 18,983 long tons in 1929, a decrease of 41 per cent. Reclaimed rubber consumption in the industry declined to a greater extent than crude, from 10,019 tons in 1929 to 2,788 tons in 1931. The ratio of reclaimed to crude was 53 per cent in 1929 and but 25 per cent in 1931.

The Tensilgraph—
A New Portable Tester

THE Tensilgraph is a new portable machine just introced by Henry L. Scott Company, Providence, R. I. It has a capacity of 0 to 100 lbs., is 30" long and weighs less than 20 lbs. It is hand operated and works equally well when used in a horizontal position, or hung vertically on the wall.

By incorporating a novel spring feature in this low-



priced machine, it has the many advantages of the spring head type of machine and eliminates the disadvantages in a portable machine constructed on the dead weight lever principle.

The machine is built to test standard size specimens of fabric, paper and similar materials in conformity with specifications and general practices as recommended by the United States Government and American Society for Testing Materials.

Calculator for Yarn Numbers

THE Calculator illustrated herewith eliminates the use of charts and books in computing yarn sizes or numbers. Anyone can obtain yarn sizes or instantly convert from one yarn numbering system to any other yarn numbering system with this device as no figuring is required, state its manufacturers, the Henry L. Scott Co., Providence, R. I.

It will give the true size of cotton yarn if actual per cent of regain is known and the conversion from one yarn numbering system to any other is very simple. One setting of the dial gives equivalent yarn sizes.

Calculations are based on weighing 120 yards in grains, setting one indicator to this number of grains and reading actual yarn size against the indicator marked for the yarn system desired. The size is approximately 4" in diameter.

Air-Less Tires at Last

The following announcement has been received through the mails by the Editor and is reprinted herewith exactly as received, without comment:

> Announcing the sale of my devise called "The Air-Less Automobile Tire." I want Tire Manufacturers at once. The purpose of this devise is improvements in Cushion Tires for vehicle wheels. The desired resiliency without the use of air, thus rendering the tire puncture-proof. Simple and durable in construction, reliable and efficient in use and inexpensive to manufacture.
>
> This invention is of unusual merit and commercial possiabilities. This tire being Air-Less, Puncture-proof, Comfort, Safety, Economy and Serviceable, that eliminates all tire trouble is the world's best for a automobile tire.
>
> This is a wonderful opportunity for automobile tire manufacturers to extend there business activities and become successful. Prospective patent buyers should now prepare thereself to get a patent and supply the great demand for the market. The reasons why you should manufacture Air-Less tires are plainly seen. The weakest part about any air tire for automobile use is the inner tube, which is supposed to bear weight but has no support and of which causes the most of all tire trouble. It is time now that Tire Manufacturers and Rubber Companies should wake up to reason and good judgment and manufacture a more reliable tire. Every invention that is improved or different always find a sale. This patent is protected in Washington, D. C. Tire dealers and others that demand Air-Less tires can only get them from the tire manufacturers that have a patent and those that do not will be out of luck. The chances will never be better than they are right now to supply a great demand of which there is no competition. The manufacturers that get started first will most likely be the ones to make most money. There will be no better automobile tire manufactured in the future. If you have not seen my drawing and specification, request me to submit them for your approval. Rush now your contract to manufacture Air-Less Tires and become one of the Air-Less Tire Manufactures of which they may hope to see a brighter future ahead instead of the depression. This ideal tire will get you better sale prospects and satisfied customers. Wishing you success.
>
> Yours sincerely,
> GEO. C. CRAIG, Inventor.
> 804 E. Grove St.
> Bloomington, Illinois.

EDITORIAL COMMENT

Readjustments and Wage Scales

READJUSTMENTS are taking place in every industry. It is still too early to accurately measure the effect of wage declines in the rubber industry but the observations of the National Industrial Conference Board, in regard to wages and salary readjustments in general, are interesting, if for no other reason than personal comparative purposes. Rubber workers have suffered in no greater degree than those in other industries and a comparative survey of the unprecedented economic adjustment which is taking place, may bring some consolation to those in our own industry who feel the pinch of the new order of things. Certain encouragement, however, can be found in the fact that the Conference Board found evidence of a definite increase in activity in the rubber industry as a whole.

The purchasing power of the contents of the average weekly pay envelope in manufacturing industry has declined 27.3 per cent in the three years between June, 1929, and June, 1932. This percentage means that real weekly earnings have declined to that extent. That the decline was not much larger is due to the decrease in the cost of living of wage-earners, which, while it has not kept pace with drop in earnings, has in the three years noted amounted to 22.3 per cent, according to the current regular investigations of the National Industrial Conference Board.

Three factors enter into the computation of the purchasing power of weekly earnings, namely, the number of hours worked per week, the rate of pay, and the cost of living. In June, 1929, the average number of hours per week worked by those employed was 48.6 hours. In June, 1932, this figure had fallen to 32.7, or a decrease of 32.7 per cent. In June, 1929, the weekly earnings in actual dollars were $28.69, and in June, 1932, they had dropped to $16.24, or a decline of 43.4 per cent. But the decline of 22.2 per cent in the cost of living made the purchasing power of the June, 1929, dollar equal to $1.29 in June, 1932.

Average weekly earnings fell off sharply between May and June of this year, from $17.17 to $16.24, or 5.4 per cent. While this decline has been due in some measure to reduced rates of pay, the greater factor has been the shortened work-week. Average hourly earnings of all wage-earners combined were 50 cents in June, which is one cent, or 2.0 per cent, lower than in May. In comparison with the level of hourly earnings in June, 1929, when they averaged 59 cents, there has been a decline in the three-year interval of 15.3 per cent.

The Conference Board returns from twenty-five industries regularly reporting show further lay-offs of wage-earners during June, bringing the employment index 5.6 per cent below that of May, and 42.8 per cent below that of June, 1929. While there is generally a decline in employment between May and June in these twenty-five industries combined, the recession at this time was considerably greater than might normally be expected.

With only a few exceptions the decline in activity in the separate industries, as gauged by the number of persons laid off and by the number of hours worked by those employed, has been larger than is generally found during this time of the year, and in some industries the curtailments have been very drastic. On the other hand, some exceptions were noted. In the agricultural implement industry, employment fell off very sharply, although the average number of hours worked per week was higher in June than in May, with resulting higher average weekly earnings for those at work. In the boot and shoe industry and in the foundries and machine shops manufacturing "other products" also, a similar situation was shown, although the decline in employment was not nearly so pronounced. In the furniture industry, a decline in employment was accompanied by an increase in the average number of hours worked per wage-earner and a decline in the average weekly pay. A similar condition was found in news and magazine printing. Lumber and millwork showed an increase in employment but not in the average work-week and weekly earnings. *A definite increase in activity, which is unusual at this time of the year, was noted in the rubber industry.*

The cost of living of wage-earners declined nearly 1 per cent between May and June, making a total decline of 22.2 per cent since June, 1929. The largest decline between May and June was noted in clothing prices, 1.8 per cent, closely followed by rents, 1.5 per cent. Contrary to their usual seasonal movement, which is upward, food prices declined 1.2 per cent between May and June. Since June, 1929, food and clothing prices have declined 35.4 per cent and 33.0 per cent, respectively, and rents have declined 21.3 per cent.

The RUBBER AGE

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Editor.....J. P. BUSHNELL
Circulation Manager.....M. A. KRAMER

Representatives in all the rubber centers of the United States, Canada, England, France, Germany and the Middle East.

The Rubber Industry's CURRENT NEWS

Financial—Personals—New Rubber Products—
Building Operations—Manufacturing—Exports

LITCHFIELD RETURNS OPTIMISTIC ON OUTLOOK

Arriving recently in Akron after a combination vacation and business trip to Europe, P. W. Litchfield, Goodyear's well-known president, commented optimistically on the outlook for trade in England and the Continent.

"There has been pronounced improvement in business sentiment in England by comparison with that which existed when I was there two years ago," Mr. Litchfield declared.

"The Goodyear plant in England is working 24 hours a day for 6 days a week and during my visit there British Goodyear brought dividends to 5 per cent for the first half of 1932."

In addition to his inspection trip to the English factory, Mr. Litchfield traveled in Italy, France, Belgium and Germany, conferring with industrial leaders.

In Germnay he spent a short time with Dr. Hugo Eckener, famous commander of the Graf Zeppelin, and discussed with him the present status of plans for transatlantic Zeppelin service. To date there has been very little progress on the new commercial air liner being built at Friedrichshafen, he reports.

In France and Belgium especially, Mr. Litchfield was impressed by the extent to which railroads are using faster and lighter units on more frequent schedules in meeting transportation competition.

He rode on several Diesel motored, rubber tired coaches, brought into use by this transition, and reports their use is meeting with public approval because of easier riding qualities, the elimination of noise and other objectionable features of heavy trains.

New Rubber-Tired Bus

A new gasoline-propelled motor bus capable of riding the highways and railway tracks with equal ease on rubber tired wheels, recently made its appearance on a trip from Kent, O., to Cleveland, over the Erie Railroad and back to Kent over the state highway.

The new bus is the invention of Frank R. Fageol, of the Twin Coach Company, Kent, O., and was brought to Cleveland with Mr. Fageol heading a handful of company engineers. Railroad executives and traction representatives joined the party there and were given a brief ride in the vehicle, which never before ventured beyond the factory grounds at Kent.

Traveling as any other motor coach when on public pavements, the bus traverses the rails on the soft cushions of rubber and air which today are common only to the highways. The tired wheels are held to the rails by pairs of small flanged guide wheels which project from each axle and ride the inside of the rails just before and behind the rubber. These guide wheels are readily adjusted into an inactive position for highway travel.

Tire Truck Hi-Jacked

Tires valued at $10,000, eastbound from the plant of the Mohawk Rubber Company, were stolen by six hijackers on the William Penn highway east of Pittsburgh, the evening of August 11.

The hijackers drove up ahead of the truck, flashed guns and ordered it to stop. They kept the driver, John F. Smythe, of Alliance, owner of the truck, and his assistant, while the truck was driven away.

Two hours later Smythe and the driver were turned loose and told where they could find the truck.

New Rubber Patents

Rights to seven patents awarded Akron district inventors recently have been assigned to the B. F. Goodrich Company.

The seven patents include a new vulcanizing apparatus, patented by Charles W. Leguillon; a grafting and budding tape, by Allan B. Merrill; a tire and method of making same, by Francis C. Rogers and Vincent B. Gay, and a tire building apparaus, by Joseph J. Black.

A method and apparatus for removing treads from tires, by Walter B. Freeman; a method or machine for splicing rubber tubes, by Otto F. Homier and Harvey L. Young, and an impeller blade, by John D. Beebe, were also announced.

Floral City Rubber Co.

Machinery is being installed in the Floral City Rubber Company plant at Fostoria, O., which is moving there from Jackson, Mich. The rubber concern will occupy the building formerly occupied by the Seneca Motor Company.

Operations of the rubber company are expected to get under way in about two weeks, according to S. F. Sawyer, manager. The concern will manufacture toy balloons and rubber stair mats.

Approximately a dozen men will be employed in the factory when it starts production, but within a year it will employ at least 100 workmen, Mr. Sawyer said.

U. S. PLANS TO BRING SALES DIVISIONS TO N. Y.

Consolidation of the various sales divisions of United States Rubber Company in the New York building of that organization—a move which was forecast in May when J. F. O'Shaughnessy was appointed general sales manager in charge of sales of all U. S. products—is now rumored to be under way. The three major departments of the company will be moved first, these being: footwear sales which will be transferred from the Naugatuck factory of U. S., tire sales from Detroit, and mechanical goods from Passaic. The Detroit move will be made about September 1.

Eventually all of the sales divisions of the company, now scattered about the country in the several factories of the organization, will be centered in New York if present plans carry through. However, definite dates for the removal of the minor departments have not as yet been set.

Exchange By-Laws Revised

By vote of the membership recently, by-laws of the Rubber Exchange of New York, Inc., were amended in the matter of certification, variation of deliverable weights, and the insolvency of member individuals and corporations.

Certificates of grade issued on and after November 1, 1932, will be valid for a period of twelve months, instead of nine months previously.

Rubber previously certificated may be offered for recertification before expiration of the certificate of grade.

On deliveries against the "A" and "AB" contracts, a variation in weight of two per cent will be allowed, instead of one per cent, from the 22,400 pounds called for in the contract.

The section applying to the insolvency of members is further defined and clarified. A corporation enjoying corporate privileges in the Exchange through a member will hereafter have these privileges automatically revoked in the event of insolvency on part of the member or corporation.

Raybestos-Manhattan, Inc.

During the six months ended June 30, 1932, Raybestos-Manhattan, Inc., incurred a net loss of $117,600.10, after charges of $275,734.93 for depreciation.

The directors declared a dividend of fifteen cents per share, payable September 15, 1932, to stockholders of record at the close of business August 31, 1932.

KELLY-SPRINGFIELD PLAN BECOMES EFFECTIVE

Capital readjustment plan of Kelly-Springfield Tire Company, has been declared operative as of July 28 by the readjustment committee on the basis of deposits of more than two-thirds of all classes of stock. G. A. Biddle, secretary of the committee, states that deposits will be received until the close of business on August 22.

The recapitalization plan provides for the following:

(1) Each share of the present 6% preferred stock is exchangeable for $100 par value in 10-year 6% notes, and two shares of new common stock.

(2) Each share of the present 8% preferred is exchangeable for one share of $6 preference stock no par value, and three shares of new common stock. The $6 preference stock is redeemable at $102.50.

(3) The reduction of the common stock and the issuance of one share of new common, $5 par value, for two shares of the old common no par value.

Accident Claims

Rubber workers in Ohio filed 2,892 injury and occupational disease claims with the State Industrial Commission, according to statistics issued at Columbus recently in the annual report of the State Industrial Commission.

There were 23 fatalities in the rubber industry, one permanent total disability, 67 permanent partial disabilities and 2,762 other injuries causing a time loss of 225,810 days. Injuries to fingers, commonest in most industries, were comparatively low in the rubber industry, while injuries by direct amputations by machines, by asphyxiations and for fractures and injuries to toes were unusually high.

Title for Goodrich Play

The B. F. Goodrich Company sales show "The Play Without a Name," now has two titles. Awards for names suggested by salesmen and dealers who saw the show go to L. O. Veith, Philadelphia, Pa., and E. J. Doyle, Rochester, N. Y.

Mr. Veith suggested "Revelation" as the winning title in the salesmen's division, and Mr. Doyle named the show "Out of the Dark."

Miller Doll Plant Busy

The business of manufacturing rubber dolls, recently announced by the Miller Rubber Products Company, Inc., is going at a gallop, according to James Taylor, head of the toy division of the Miller company.

Since announcement was made of the new "My Dolly" several months ago orders have been deluging the Akron offices. The doll division of the Miller plant has been working 24 hours a day.

"Orders now on hand are sufficient to keep every man and machine in the doll division working at top-speed for four weeks and keep piling up," Taylor says.

New Jersey Zinc Company

New Jersey Zinc Company reports for the quarter to June 30 net profit of $487,896, after depreciation, depletion, taxes, contingencies, etc., equal to 25 cents a share on 1,963,264 shares of stock. This compares with $591,103, or 30 cents a share, in the preceding quarter and $865,252, or 44 cents a share in the June quarter of the previous year. For six months ended the like date net profit was $1,078,999, after charges and taxes, equal to 55 cents a share, on the common.

PENNSYLVANIA TIRE PRICES ARE RAISED

W. O. Rutherford, president of the Pennsylvania Rubber Company, Jeannette, Pa., declared recently that he would shortly announce an advance in the prices of Pennsylvania tires and tubes to include the Federal tax which all tire companies have been absorbing. The tax amounts to approximately 12 per cent.

Mr. Rutherford stated that in his judgment the rubber industry as a unit should take this constructive step, as absorption of the tax is not only definitely retarding the industry's rehabilitations, but is aggravating competitive conditions in both manufacturing and retail channels.

"It is time for the rubber industry to go 'long' on America," said Mr. Rutherford. "We as an industry cannot continue to sell this country short, as we have been doing for three years, and retain public favor."

New Exchange Members

At the regular meeting of the board of governors of the Rubber Exchagne of New York, Inc., on August 16th, the following were elected to membership: Matthew S. Fox, with Slaughter, Horne and Company, 66 Beaver street, New York; and Nat N. Kaplan, of H. M. Henderson and Company, 66 Beaver street, New York.

Canadian Plant to Open

It is reported that the Baldwin Rubber Company, which has established a plant at Orilla, Ontario, Canada, will begin operations about September 1. The new company's activities is said to include the producing of rubber goods for a number of American concerns, to be sold on the Canadian market.

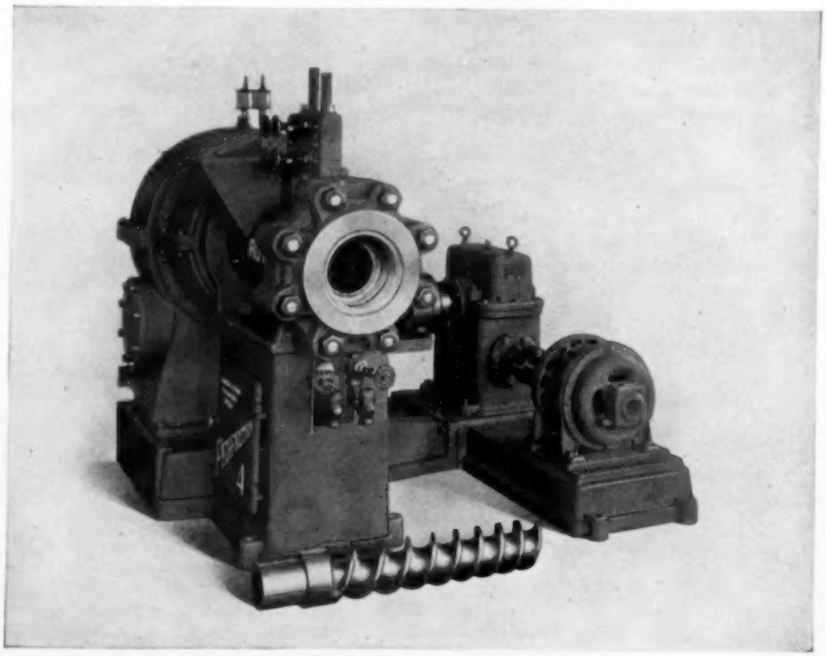
Royle Tuber Adapted to Special Compounds

TO meet varying conditions with only slight modifications of standard machines is a problem many manufacturers have to meet today. The accompanying illustration shows a No. 4 Royle worm drive tubing machine which was adapted to handle a special compound requiring a very low stock screw by the use of a double worm reduction. By using a geared motor triple reduction is possible.

An extra large hopper and reverse direction rotation of the stock screw is also accomplished. Machines of this type have been furnished with bronze and other special cylinder liners to resist the action of various chemicals.

While this is not a standard machine it indicates the adaptability of this equipment to meet the particular requirements of certain industries, according to the statement of the manufacturers.

This service is available to rubber manufcaturers who are confronted by changing market conditions, new chemical discoveries and consumer demand. (John Royle & Sons, Paterson, N. J.)



Names in the News

HARRY B. HAMLIN, manager of the credit department of the Goodyear Tire and Rubber Company, has been appointed assistant treasurer of the company. Mr. Hamlin has been with Goodyear since 1905, when he became the 27th office employe of the then comparatively infant concern.

J. D. TEW, president of Goodrich, spoke before a conference of the company's district managers on August 15. Attending the conference, in charge of S. B. ROBERTSON, vice-president, and C. B. O'CONNOR, general tire sales manager, were FRANK E. TITUS, sales manager of the Pacific division; F. A. MEURIN, head of the southwestern division, Dallas, Texas; H. B. THACKSTON, southeastern division, Atlanta, Ga.; R. McTAMMANY, eastern division Akron, and A. C. KELLY, western division, Akron.

HARVEY S. FIRESTONE, SR., chairman of the board of the Firestone Tire and Rubber Company, sailed on August 9, on the *S. S. Leviathan* for a six-weeks trip to Europe.

MISS CLARA BINGHAM, librarian of Goodyear Tire and Rubber Company, at Akron, O., has been seriously ill at the Akron City Hospital. Miss Bingham has been with the Goodyear organization 25 years and has held several responsible positions.

T. S. ROWE has been appointed sales manager of the newly created rubber floor coverings, mats and matting department of the B. F. Goodrich Company, according to a recent announcement by W. S. RICHARDSON, manager of the mechanical goods merchandising division of the company.

J. T. KIDNEY, safety manager at Goodyear Tire and Rubber Company, Akron, spoke before the Rotary Club of Lorain, O., August 5, on the subject of Zeppelin construction. He has been identified with the engineering work on the two ships built for the Navy by the Goodyear-Zeppelin Corporation.

LEONARD FIRESTONE, one of the sons of Harey S. Firestone, Sr., recently visited Los Angeles, Calif., to inspect the Firestone Los Angeles plant and confer with R. J. COPE, president of the California subsidiary. He made the trip from Kansas City by plane. While in Los Angeles he spent considerable time at the Olympic games.

PAUL W. LITCHFIELD, president of Goodyear Tire and Rubber Company, returned to Akron August 10, after several weeks abroad, confering with Goodyear agencies. He returned on the *S.S. Olympic* and proceeded direct to Akron upon arrival in New York.

F. ROBERT LEE, vice-president of the Thermoid Rubber Company, Trenton, N. J., has been on a lengthy business trip through the West.

JOHN G. STOLLER has resigned as secretary and purchasing agent of the General Tire and Rubber Company. Mr. Stoller had been associated with General ever since it was established in Akron in 1915. For three years prior to that time, he had been associated with WILLIAM O'NEIL and W. E. FOUSE, now president and vice-president, respectively, of the General Tire company, in the operation of the Western Tire and Rubber Company in Kansas City, Mo.

Since 1917, he had been in charge of purchases for the company and in December, 1929, was made secretary of the company.

JOHN G. STOLLER

He is a graduate of Oberlin College and is a native of Galion, Ohio. He is a member of the Portage Country and the City Club, both of Akron.

Mr. Stoller expects to be associated in a private business enterprise with several other General Tire officials.

He has been succeeded as general purchasing agent by ROBERT M. GRAHAM, who has been connected with the General Tire company for a number of years, most recently in the capacity of efficiency engineer. W. E. FOUSE, vice-president, has assumed the duties of secretary of the company.

Mr. Graham has been connected with the rubber industry for the past 20 years, since his graduation at Miami University at Oxford, Ohio. He has served with several other rubber companies, having been efficiency and production engineer with both the Goodyear Tire and Rubber Company and the B. F. Goodrich Company.

THEODORE S. CART, former president of the Pocono Rubber Cloth Company, Trenton, N. J., is touring Europe with Mrs. Cart.

C. DUDLEY WILSON, secretary-treasurer of the Luzerne Rubber Company, Trenton, N. J., has been spending some time along the New Jersey coast.

M. T. HEDGES, of the American Hard Rubber Company, Butler, N. J., and M. L. FULLER, of the New Jersey Zinc Company, Palmerton, Pa., have been appointed members of Committee E-2 on Spectrographic Analysis, of the American Society for Testing Materials.

HARVEY WILLSON, formerly of the Rubber Manufacturers' Association and lately secretary of the Pennsylvania Grade Crude Oil Association, has joined the Radbill Oil Company, of Philadelphia, Pa., in an executive capacity.

DR. ARTHUR W. SLOAN and DR. DAVID CRAIG of the chemical research laboratories, the B. F. Goodrich Company, started their vacations August 13. Dr. Sloan went to South Dakota and Dr. Craig to Iowa. They will meet in Denver to attend the semi-annual meeting of the American Chemical Society.

FRED S. WILSON, former vice-president of the Thermoid Rubber Company, Trenton, N. J., is a candidate for supervisor of Los Angeles County, Calif. Mr. Wilson went to Santa Monica, Calif., 20 years ago to become Pacific Coast manager of the Thermoid Company.

Clifford H. Oakley

Clifford H. Oakley, president of the Essex Rubber Company, Trenton, N. J., died August 9, in Philadelphia, following a lengthy illness. He was 63 years old. Mr. Oakley and his brother, Lawrence M. Oakley, founded the Essex Rubber Company twenty-five years ago. The deceased is survived by his widow, a son, George T. Oakley, a daughter, Mrs. Joseph B. Hewitt, of Scarsdale, N. Y., a sister and two brothers.

Mr. Oakley was born in Cleveland, O., and was educated in the grammar and technical schools of that city and Ashtabula, O. He became a mechanical draftsman for the Erie Railroad Company in 1887 and later became junior engineer for the same concern. He left the railroad employ to become a mechanical draftsman for the Cleveland Rubber Company, advancing to the post of superintendent. Later he worked for the New York Belting and Packing Company, of Passaic, N. J., and later returned to Cleveland to become general superintendent of the Cleveland Rubber Company. He was later made manager of the Grieb Rubber Company, of Trenton, and after seven years consolidated the company with the Ajax Rubber Company, of Trenton.

In 1907 he founded the Essex Company with his brother, Lawrence, and began the manufacture of brake linings, insulating materials, packing, automobile accessories, and rubber heels and soles.

Mr. Oakley was deeply interested in community welfare and was an active member of the Trenton Chamber of Commerce and Rotary Club. He was a director of the New Jersey Manufacturers' Association.

Rubber News Around the World

MEXICAN TIRE MARKET DECLINES; STOCKS DROP

TIRE wholesalers report the same volume of business for the second quarter as for the first three months of the year, according to latest advices of Department of Commerce officials. On the whole, very little change has occurred in the trade. The ever-decreasing number of cars in circulation, coupled with a steadily increasing domestic production, are factors discouraging to importers. The situation is, of course, colored by local economic conditions and adversely affected by each drop in peso exchange.

Sales as reported by the various American companies represented are under those for the same period of last year. On the average, the volume is perhaps 45 per cent under last year. Sales for the quarter under discussion, although from 40 to 45 per cent under the second quarter of 1931, are equal to the volume of the first quarter of 1932. Business of the Dunlop Co. is stated to be about the same as last year, largely because of their ability to cut prices, and their inclination to take greater credit risks than do the American competitors. Their participation in the market is believed to be from 12 to 15 per cent.

Stocks held by both wholesalers and retailers are low, and branches are doing their best to maintain a very liquid position. Retailers have not stocked up, because of the uncertainty of exchange. An increase of 7½ per cent on list prices went into effect May 24. For a few days prior to that date wholesalers did a brisk business in anticipation of the increase.

Collections are stated to be better than during the preceding quarter. Certain wholesalers, in order to maintain volume, have loosened up somewhat on credits. The trade in general, however, is following the old policy of extending credit only to definitely proved firms, and is particularly careful of bus lines and fleet owners.

Competition from the local manufacturers, "Euzkadi" and "El Popo," protected by duties, has reached a point, so far as tubes are concerned, as to make it impossible to import any except the larger sizes, not manufactured locally. The present tariff of 4.50 pesos per gross kilo amounts to more than the wholesale cost of imported tubes, and practically prohibits their importation.

Rubber Shipments Increased

Crude rubber exports by British Malaya, the largest producer, totalled 40,863 tons during July, compared with 36,566 tons during June. Malaya's shipments amounted to 43,600 tons during July, 1931.

Ceylon exports 3,121 tons last month, against 3,614 tons during June and 4,212 tons during July a year ago. Of this total 1,536 were for the United States, against 2,231 tons in June and 3,035 tons one year ago.

Russian Rubber Chemicals

Until 1930 over 90 per cent of the needs of the Russian rubber industry in accelerators and anti-agers were supplied by imports. Last year, however, these materials were manufactured to the value of 472,000 gold rubles and in quantity sufficient to supply more than 50 per cent of the rubber industry's needs. During the present year a considerable increase in output is planned. These materials are made principally at the research plant of the Russian Dyestuffs Trust at Kineschma. The capacity of the plant is eventually to be 1,500 tons a year of accelerators and anti-agers.

U. S. vs. British Golf Balls

A demonstration of the increase in the power of the golf ball in all its periods of improvement, from 1888 to the present day, was recently made at Barnhurst course, Kent, England, by the Silvertown Company, the well-known British golf ball firm.

All the balls were hit by an automatic driver, a kind of gun which fired the ball from the tee. The firm had made up gutta-percha balls from old molds still in its possession. Balls, of the gutta-percha type used up to 1900, recorded a drive by the machine of 222 yards. Of the rubber core balls, made between 1913 and 1922, the longest drive was 263 yards.

The modern British ball went 276 yards, which showed an increase of 13 yards in power of flight. The American lighter and larger ball, dropped after a two years' trial, went 276 yards. The present American ball, which is the same weight, but larger than the British standard ball, went furthest of all types tested—285 yards. During the test of the American type a following wind sprang up, but to prove the superiority of the American ball, L. Bates, the club professional, afterwards hit the British and American balls against the wind. He hit the latest American ball 20 yards further than the British ball.

British Rubber Exports

Exports of automobile casings from United Kingdom to foreign countries during the first six months of 1932 numbered 650,076, as compared with 581,215 casings exported for the same period of 1931, according to Commerce Department reports. New Zealand, British South Africa, British India, Irish Free State, France Netherlands, Spain, Italy, Switzerland and Brazil were the leading markets during the first half of 1932 in the order named.

During the first half of 1932, the United Kingdom exported 1,036,728 pairs of rubber boots and shoes and canvas rubber-soled shoes valued at £95,083 as compared with 1,169,280 pairs valued at £120,261 in the first half of 1931.

CANADIAN RUBBER GOODS EXPORTS SHOW DECLINE

DURING the first six months of 1932 Canadian exports of pneumatic casings numbered 210,296, as compared to 442,015 in the first half of 1931, according to Department of Commerce reports. Exports of inner tubes in the respective halves of these years numbered 134,469 in 1932 as compared to 353,204 in the first half of 1931.

Canadian exports of rubber boots and shoes to foreign countries during the first six months of 1932 numbered 355,263 pairs valued at $490,388 and canvas rubber-soled footwear was shipped to the amount of 593,283 pairs valued at $336,667. This compares with 372,710 pairs of rubber boots and shoes valued at $613,779 and 2,477,535 pairs of canvas rubber-soled shoes valued at $1,606,101 shipped from Canada in the first six months of 1931.

In the first six months of 1932, Canadian rubber belting exports totaled 322,260 pounds valued at $104,127 as compared to 387,503 pounds valued at $120,573 in the first six months of 1931. Canada exported $27,735 worth of rubber hose in the first six months of 1932 as compared to $72,482 worth in the first six months of 1931.

Rubber Stocks Decline

Far Eastern dealers' stocks of rubber amounted to 19,798 tons, dry weight basis, at the end of July, as compared with 23,331 tons at the end of June. These supplies totaled 42,619 tons at the close of July, 1931.

The July total consisted of 9,252 tons of smoked sheet, 8,123 tons of crepe, 1,292 tons of unsmoked sheet and 1,359 tons of scrap and lump rubber.

Harbor Board stocks held at Singapore and Penang, in addition to the above, amounted to 4,408 tons at the end of July, as compared with 5,340 tons at the end of June, and 7,372 tons at the close of July a year ago.

German Factory in England

A new factory, expected to give employment ultimately to 1,500 hands, is to be erected at Grantham, England, by German interests for the mass production of rubber shoes previously imported from the Continent. The German firm is anxious to maintain its British trade, which was in danger of being lost as a result of the new import duties.

D. E. I. Rubber Output Reduced

A cable from Batavia, Java, to the Rubber Exchange of New York, Inc., states that, according to the latest official data, tapping of rubber trees on 419 estates in the Dutch East Indies has stopped entirely, while tapping on an additional 115 estates has partly ceased. Twenty-seven per cent of last year's total tappable area is now out of production.

Norwalk Tire Shows Gain

Net profit of Norwalk Tire and Rubber Company for nine months ended June 30, 1932, was $103,665 after taxes, depreciation and other charges. For quarter ended June 30, 1932, net profit was $64,516 after taxes and charges.

Income account for nine months ended June 30, 1932, follows: Gross $283,007; expenses $141,915; operating profit $141,092; other income $7,105; total income $148,197; depreciation $18,000; discounts, etc., $15,397; provision for doubtful accounts etc., $11,135; net profit $103,665.

"Goodrich Day" Program

Sale of National Air Race tickets for "Goodrich Day," Sunday, August 2, opened throughout the plants of the B. F. Goodrich Company and Miller Rubber Products Company, Thursday, August 11, according to A. C. Sprague. committee chairman.

More than 5,000 Goodrich and Miller employees and their families are expected to attend the race meet at the Cleveland Airport on the second day of the annual air show.

Led by 11 cars of the Goodrich Silver Fleet, a parade of Goodrich cars will be escorted by motorcycle police to the airport where a special program will be presented.

President J. D. Tew will speak over radio station WTAM, Sunday night, August 28. Broadcast of all the air race events will be sponsored by Goodrich this year.

Pharis Markets DeLuxe Tire

Pharis Tire and Rubber Company is replacing its Triple Service tire at the top of its line with a newly developed DeLuxe tire. The DeLuxe incorporates such Pharis features as the cushion-capped carcass, replacing old-style breaker strips. It has center-traction tread and this non-skid member is of unusual, symmetrical design which is carried completely across the tire without interruption.

In appearance the DeLuxe is rugged and handsomely finished and is priced only slightly in advance of ordinary tires.

Rubber Shares Rise

Falling rubber stocks on hand in both London and Liverpool, coupled with various other factors, are responsible for greater interest being taken in the plantation share market than for a long time past.

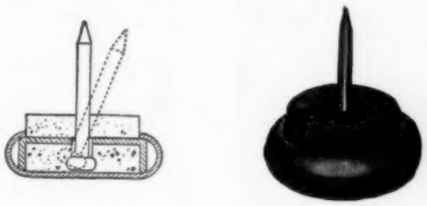
The following list illustrates how far prices of a few leading plantation shares have fallen from their 1929 levels on the London Stock Exchange and to what extent they have already recovered from the low records touched earlier in the present year:

	Highest in 1929	*Current Price*	*Lowest 1932*	*Price*
Anglo-Dutch	44s.3d.	7s.4½d.	4s.	9d.
Bertram Consol.	6s.3d.	1s.		5½d.
Highlands	45s.	10s.	5s.11½d.	
Grand Central	32s.4½d.	4s.6d.	3s.	1½d.
Linggi	38s.6d.	6s.3d.	3s.	
Malacca	47s.9d.	7s.6d.	4s.	9d.
Rubber Estates of Johore	21s.3d.	2s.		9d.
Rubber Trust	47s.	10s.7½d.	6s.	
Telogoredjo	54s.	2s.9d.	1s.	4½d.
United Sua Betong	88s.9d.	21s.3d.	14s.	6d.

New Rubber Goods

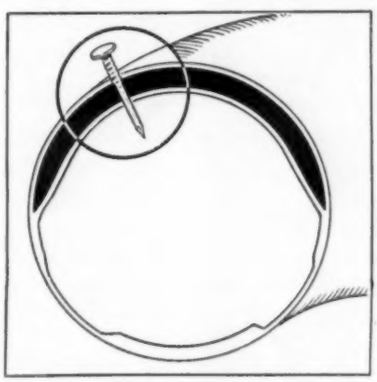
Chair Glides

A new chair glide, made of steel frame insulated with live rubber is being introduced by the Faultless Caster Company, Evansville, Ind. The rubber insulation protects against jars and vibration and the rounded corners of the glide prevent marring of the floors. The glide is easy to apply and only needs to be hammered into position. It is offered in three sizes and is finished in oxidized copper to harmonize with any style of furniture. The diagram shows the construction of the device.



Self-Repairing Inner Tubes

A new departure in inner tube design and construction is claimed by the Reuter Rubber Company, 19 Heyward Street, Brooklyn, N. Y., in their new patented self-repairing puncture-proof inner tubes. The puncture-proof feature is claimed from the unique construction of having practically two tubes in one; two sections of tube stock being separated by a layer of uncured rubber which automatically seals the tube when it has been punctured.



The company has prepared a merchandising plan in which each tube is shipped in a separate carton, inflated under test. These containers are made attractively and being about the size of a casing they are helpful to the dealer in displaying the line.

Official Olympic Footwear

In connection with the Olympic Games recently held in Los Angeles, Calif., the American Olympic Clothing Committee officially accepted the Olympic Parade shoe for male contestants—which is white and black sport oxford called the "Rockford" and manufactured by the Mishawaka Rubber and Woolen Manufacturing Co. This Ball-Band oxford was worn by male athletes in the parades that featured in the opening of the Olympic games.

The committee also approved and accepted the men's and women's Mishawaka Rubber and Woolen Manufacturing Company's

(Ball Band) Locker Sandals for the American Olympic Swimming Team.

The sole is sponge rubber, thick and "cushiony" but light of weight. On the bottom is a layer of a new sole material that is lightweight, long wearing and does not slip on either wet, or dry floors.

Codeball

This new game, which is being sponsored by the Codeball Corporation of America, 11 S. LaSalle St., Chicago, Ill., is akin to golf. A 6-inch soft rubber ball is kicked

or "bowled-out" in the fewest possible "kicks." The Codeball itself is inflated. An official Green comprises 14 "bowls." The bowls have a rubber base. The game can be an adjunct to golf courses, playgrounds, gymnasiums, etc.

Rubber-Handled Putty Knife

A new putty knife of fine quality steel blade embedded in a soft rubber handle, which will readily adjust itself to the palm of the hand, is the latest item on the list

of the Rodale Manufacturing Company, Emaus, Pa. The knives come packed to dealers in boxes of 12 and are listed at 10 cents each.

Duty on Hard Rubber Dust

In Treasury Decision 45706, dated June 2, 1932, the Commissioner of Customs has ruled that hard-rubber dust properly falls within the provision in paragraph 1537 (b) for:

"manufactures composed wholly or in chief value of India rubber known as 'hard rubber,' not specially provided for, finished or unfinished, 35 per centum ad valorem."

It had been the practice of the appraiser at New York to classify hard-rubber dust as waste rubber, free of duty and as coming within the scope of T. D. 31544.

That case dealt with scrap recovered from old rubber articles by chopping and grinding to segregate the rubber from other materials used in the articles and the result of these operations was held to be "old scrap or refuse india rubber which has been worn out by use and is fit only for remanufacture." The court found that the processes of chopping and grinding were not a manufacture or for the purpose of putting the material on its course of manufacture toward some article into which it is subsequently to be made but were for the purpose of recovering and assembling it into a raw material in a form suitable for transportation and marketing.

However, it has been learned that the material from which rubber dust is made is scrap rubber which has never been combined with other material or which has been segregated from such material and that the grinding process is not for the purpose of recovering the rubber but is a step in the manufacture of scrap rubber into completed articles such as steering wheels for automobiles, etc.

The Commissioner of Customs is therefore of the opinion and has so ruled that a duty as above outlined should be assessed on all future shipments entered for consumption after July 9, 1932.

The question was originally brought to the attention of the Treasury Department by a number of domestic producers. A rumor that the case was instigated solely by the Somerset Rubber Reclaiming Works, New Brunswick, N. J., has been vigorously denied by that company, which according to Irving Laurie, secretary, declares that they were not involved in any way in having the duty assessed.

Colored Tire Catalog

A new sales manual in color has just been issued by the B. F. Goodrich Company, Akron, O., describing its new colored tires.

Portraying harmonious color combinations on automobiles, the manual suggests colored tires to match the color of any motor car, as well as a contrasting or complimentary colored tire. These color combintaions have been suggested by the staff of artists which created the new colored tires.

Among the colored tires illustrated in just the shades in which they are made are tangerine, lime, gold, bronze, carnelian, chestnut, Arabian brown, spruce willow, granite, carnation, English vermilion, cardinal, amber, Colonial blue, sandstone, claret, laurel, sienna.

The new Goodrich colored tires are made by the exclusive Colorweld process, by which colors are ingrained in the rubber.

Doughnut Tires Require Changes

Several changes in steering adjustments are advised by the Chrysler Service division in cases in which the new "doughnut" tires are mounted on Plymouth models. In the steering gear itself, a new design is used in which friction is reduced by an additional roller bearing on the sector shaft. A new 15-to-one ratio is used and the drag link has to be reversed to provide proper clearance. In the steering shock eliminator one coil spring has to be replaced by a rubber block; and the other one has to be shortened. Both front wheels and tires have to be balanced by means of weights attached to the spokes. Shock absorbers also require adjustment to compensate for lower tire pressures.

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LATE MARKET PRICES

RUBBER—COTTONS AND FABRICS—CHEMICALS

NEW YORK, AUGUST 20, 1932

Crude Rubber

THE general improvement in tone in all commodity markets and the increased optimism in industry pushed rubber up slightly over the past two weeks and held it firm in spite of the discouraging reports of consumption during July and the decline in the original equipment market, brought about by the drop in automobile production. While there is an optimistic note in the commodity markets generally there is still little to base too much enthusiasm on in connection with rubber. The statistical position has not improved and while values have been boosted, they can only be sustained by further activity within the industry. More speculative interest has been evident on the New York Rubber Exchange and outside buying has been more active but the steadily maintained imports have kept stocks on hand and afloat to around the 400,000 ton mark.

Prices as of August 19, as reported on the New York outside market were as follows:

Plantations—			
Ribbed Smoked Sheets—			
Spot-August	.03⅜	@	.03½
Oct.-Dec.	—	@	.03⅝
First Latex, crepe spot	.04	@	.04⅛
Amber Crepe, No. 2	—	@	.03⅝
Amber Crepe, No. 3	—	@	.03¼
Amber Crepe, No. 4	—	@	.03¼
Brown Crepe, Clean thin	—	@	.03¼
Brown Crepe, rolled	—	@	.03
Latex—			
Liquid Latex, per gal.	.70	@	.75
Paras—			
Up-river, fine	—	@	.05¾
Up-river, coarse	Nominal		
Acre, Bolivian, fine	.06¼	@	.06½
Caucho Ball, Upper	—	@	.02½
Centrals—			
Central scrap	.04	@	—
Esmeraldas	.04	@	—
Balata—			
Block, Ciudad	—	@	.18

LONDON MARKET

Standard Ribbed Smoked Sheets—Buyers

Aug.	2⅝	@	2 7/16d
Oct.-Nov.	2 15/32	@	2½d

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—Sellers

Spot	———	@	2d

Reclaimed Rubber

There is no change that can be noted in the reclaimed rubber market. Price levels remain constant with a refusal of reclaimers to go lower to a point below production costs. Stocks remained about the same during the fortnight, with little demand and greatly curtailed production. As before reported reclaimed rubber, now selling above crude for almost a year, is being sold on quality and standard brands. Compounders are loath to discard their formulae in preference to crude when reclaimed has proved its merit. Latest prices for standard reclaimed grades follow:

High Tensile				
High Tensile Red	lb.	.04¾	@	.05
Super-Reclaim Black	lb.	.05	@	.05¼
Shoe				
Washed	lb.	.05½	@	.05¾
Tube				
No. 1 (Floating)	lb.	—	@	.06½
No. 2 (Compounded)	lb.	.04½	@	.04¾
Tires				
Black	lb.	.03¾	@	.04
Black, selected tires	lb.	.04	@	.04¼
Dark Gray		.05	@	.05¼
Light Gray	lb.	.05½	@	.06
White	lb.	.05½	@	.05¾
Truck, Heavy Gravity	lb.	.05	@	.05¼
Truck, Light Gravity	lb.	.05¼	@	.05½
Miscellaneous				
Mechanical blends	lb.	.03	@	.03½

Scrap Rubber

Scrap rubber continues to suffer from such extremely low prices that junk dealers are refusing to handle the product and collections are becoming increasingly more difficult. Prices again dropped during the month in the more popular grades due entirely to lack of buying interest on the part of reclaimers who are curtailing their output. Late prices follow:

(Prices to Consumer)

Auto tire peelings	ton	12.50	@	14.00
Mixed auto	ton	6.50	@	7.50
Clean solid truck tires	ton	20.00	@	22.00
Boots and shoes	ton	15.00	@	17.50
Arctics, untrimmed	ton	10.00	@	12.50
Inner tubes, No. 1	lb.	.02¼	@	.02½
Inner tubes, No. 2, compounded	lb.	.01	@	.01¼
Inner Tubes, Red	lb.	.01½	@	.01¾
Air Brake Hose	ton	8.00	@	8.50
Rubber Hose	ton	6.00	@	8.00

Cotton

THE continued advance in raw cotton prices has stimulated considerable interest and has doubtless boosted the inventory values of those rubber companies which had been wise in purchasing at past low levels. Increased mill activities, combined with low crop reports and continued exports, have all contributed to help in the rise in cotton. In this particular commodity the rise in price levels has been less artificial than in some of the other raw materials. With the cotton statistical position as it is any upturn in industrial activities will boost the price levels still further.

High, low and closing prices on the New York Cotton Exchange, as of August 19, were as follows:

	Aug. 19			Aug. 5
	High	Low	Close	Close
Aug.	——	——	7.45	5.86
Oct.	7.58	7.37	7.55	5.97
Dec.	7.74	7.57	7.71	6.15

Tire Fabrics

Very slight increases were recorded in the tire fabric price levels during the last two weeks and buying interest seemed to still be lacking but with the advance in raw cotton prices some increase in fabric materials was logical. Buying remains dull however. New developments with the "doughnut" tire are being watched with interest by those in the tire fabric trade. Late prices are as follows:

(Prices Net at the Mill)

CORD				
Peeler, carded, 23/4/3	lb.	.21¾	@	.22
Peeler, carded 23/5/3	lb.	.20¾	@	.21
Peeler, carded, 13/3/3	lb.	.17¾	@	.18
Peeler, carded, 15/3/3	lb.	.18¾	@	.19
Egyptian, carded, 23/5/3	lb.	.31¾	@	.32
Egyptian, combed, 23/5/3	lb.	.36¾	@	.37
CHAFERS				
Carded, American, 8 oz.	lb.	.16½	@	.17
Carded, American, 10 oz.	lb.	.16½	@	.17
Carded, American, 12 oz.	lb.	.16½	@	.17
Carded, American, 14 oz.	lb.	.16	@	.16½
LENO BREAKER				
Carded, American, 8¼ oz.	lb.	.17	@	.20
Carded, American, 10¼ oz.	lb.	.17	@	.20
SQUARE WOVEN				
Carded, American, 17¼ oz. 23-11 ply	lb.	.20½	@	.21½
Carded, American, 17¼ oz. 10 ply	lb.	.16	@	.16½

Sheetings

Sheeting prices responded to the steady advance in cotton values and more activity in the mill districts. New prices for the chief sheeting constructions used in the tire industry were as follows:

40 inch, 2.50 yard	yd.	—	@	.05⅝
40 inch, 2.85 yard	yd.	.05⅛	@	.05¼
40 inch, 3.15 yard	yd.	—	@	.05¼
40 inch, 3.60 yard	yd.	—	@	.04½
40 inch, 3.75 yard	yd.	—	@	.04
40 inch, 4.25 yard	yd.	—	@	.03⅝

Ducks

Enameling	lb.	.15	@	.17
Belting and Hose	lb.	.18	@	.18½
Single filling	lb.	.07¼	@	.07¾
Double filling	lb.	—	@	.09

Closing Prices on Rubber Exchange of New York, Inc.

FROM AUGUST 5 TO AUGUST 19, 1932

Date	Spot	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Sales
8	3.50	3.47	3.51	3.58	3.65	3.73	3.78	3.83	3.89	3.85	——	302
9	3.43	3.41	3.45	3.50	3.55	3.65	3.70	3.75	3.80	3.83	——	216
10	3.65	3.61	3.65	3.72	3.79	3.87	3.93	3.98	4.04	4.05	——	261
11	3.75	3.64	3.68	3.72	3.76	3.80	3.88	3.96	4.05	4.10	——	335
12	3.63	3.54	3.57	3.62	3.68	3.74	3.80	3.86	3.92	3.99	——	238
15	3.65	3.58	3.62	3.67	3.73	3.79	3.86	3.94	4.02	4.07	——	52
16	3.55	3.41	3.45	3.50	3.56	3.62	3.70	3.78	3.87	3.90	——	221
17	3.55	3.44	3.48	3.53	3.58	3.63	3.70	3.76	3.83	3.87	——	69
18	3.55	3.45	3.49	3.55	3.61	3.67	3.75	3.82	3.89	3.92	——	94
19	3.40	3.30	3.35	3.44	3.47	3.50	3.58	3.65	3.72	3.75	——	69

*This contract will be superseded by "No. 1 B Standard" on April 1, 1933.

CHEMICALS

A SLIGHTLY healthier tone seems to prevail in rubber chemical circles and the general comment is being expressed that the rubber industry will soon have to replenish supplies and begin a more forward-looking purchasing policy than the hand-to-mouth ordering which has been the rule during the past year or more. Chemical stocks, however, are still high and production continues to be curtailed on such bulk chemicals as carbon black and sulfur. No important changes in the price list have been reported during the past two weeks:

ACCELERATORS

Organic			
A-1	lb.	.24 @	.27
A-5-10	lb.	.33 @	.36
A-7	lb.	.55 @	.59
A-11	lb.	.62 @	.66
A-16	lb.	.57 @	.61
A-19	lb.	.58 @	.62
A-20	lb.	.64 @	.68
A-32	lb.	.80 @	.95
Aldehyde amonia, crystals	lb.	.65 @	.67
Altax	lb.		
Captax	lb		
Crylene	lb.	.55 @	.65
paste	lb.	.45 @	.55
Di-Ortho-Tolyguanidine	lb.	.42 @	.43
Diphenylguanidine	lb.	.30 @	.32½
Ethylidene aniline	lb.	.45 @	.47½
Formaldehyde aniline	lb.	.37½@	.40
Heptene	lb.	.40 @	—
Hexamethylene-tetramine	lb.	.58½@	.59½
Lithex	lb.	.18 @	.20
Methylenedianiline	lb.	.37½@	.40
Monex	lb.	3.25 @	—
Oxynone	lb.	.88 @	.90
Phenex	lb.	.50 @	.55
R & H 40	lb.	.40 @	.41
R & H 50	lb.	.40 @	.41
R & H 397	lb.	.75 @	.76
R-2	lb.	1.95 @	2.15
Safex	lb.	1.20 @	1.25
SPDX	lb.	.75 @	—
Super-Sulphur No. 1	lb.		
No. 2	lb.		
Tensilac, No. 39	lb.	.40 @	.42½
Tensilac, No. 41	lb.	.50 @	.52½
Thermic F	lb.	.50 @	.55
Thiocarbanilid, drums	lb.	.20 @	.22
TMTT	lb.	3.00 @	3.25
Trimene	lb.	.75 @	—
base	lb.	1.20 @	—
Triphenylguanidine	lb.	.58 @	.60
Tuads	lb.		
Ureka	lb.	.75 @	1.00
Vulcanex	lb.		
Vulcone	lb.		
Vulcanol	lb.		
Z-88-P	lb.	.50 @	.60
Zimate	lb.		
Inorganic			
Lead, sublimed blue	lb.	.08¼@	—
Lead, white	lb.	.08½@	.08¾
Litharge, domestic	lb.	.06¼@	.07
Magnesia, calcined,			
light	per 100 lb.	5.35 @	5.45
heavy	per 100 lb.	5.65 @	5.75

COLORS

Blacks (See Compounding Materials)

Blues			
Prussian	lb.	.35 @	.36
Ultramarine	lb.	.06 @	.32
Browns			
Sienna, Italian	lb.	.05½@	.12½
Umber, Turkey	lb.	.04½@	.07
Greens			
Chrome, light	lb.	.30 @	.32
medium	lb.	.31 @	.33
dark	lb.	.34 @	.36
Chromium Oxide, bbl.	lb.	.34½@	.35½
Reds			
Antimony			
crimson, 13/17	lb.	.40 @	.44
sulfur, free	lb.	.56 @	.66
golden, 15/17 F.S.	lb.	.20 @	.25
Indian English	lb.	.08 @	.11
Domestic (Maroon)	lb.	.11 @	—
Red oxide, pure	lb.	.10 @	.12
Rub-Er-Red, f.o.b. Easton	lb.	.08¾@	—
Whites			
Lithopone, Albalith	lb.	.04½@	.04¾
Lithopone, Azolith	lb.	.04½@	.04¾
Titanium oxide	lb.	.21 @	—
Titanox B	lb.	.06½@	.07
Titanox C	lb.	.06½@	.07
Zinc Oxide—American Process			
American Azo:			
ZZZ (lead free)	lb.	.05¾@	.06
ZZ (leaded)	lb.	.05½@	.05¾
Horsehead Lead Free Brand:			
Selected	lb.	.05¾@	.06
Special	lb.	.05¾@	.06
XX Red	lb.	.05¾@	.06
XX	lb.	.05¾@	.06
XX Green	lb.	.05¾@	.06
Leaded Brand, Standard	lb.	.05½@	.05¾
Sterling	lb.	.05½@	.05¾
Superior	lb.	.05½@	.05¾
Lehigh	lb.	.05¼@	.05½
U. S. P., bbls.	lb.	— @	.12¾
Kadox, black label	lb.	.09⅝@	.09⅞
Blue label	lb.	.08⅝@	.08⅞
Red label	lb.	.07¼@	.07½
Cryptone, No. 19	lb.	.06½@	.06¾
Cryptone CB, No. 21	lb.	.06½@	.06¾
XX Zinc Sulphide, bbls.	lb.	— @	.13
St. Joe, black label	lb.	.05¾@	.06
green label	lb.	.05¾@	.06
red label	lb.	.05¾@	.06
Zinc Oxide—French Process			
Anaconda, lead free	lb.	.05¾@	.06
Anaconda, selected lead free	lb.	.06¼@	.06½
Florence White seal, bbls.	lb.	— @	.10⅞
Green seal	lb.	.09⅝@	.09⅞
Red seal	lb.	.08⅝@	.08⅞
Yellows			
Chrome	lb.	.16½@	.17
Ocher, domestic	lb.	.01⅝@	.02

BLACKS

Arrow "Aerfloted"			
c.l. f.o.b. works, bags	lb.	.02¾@	—
c.l. f.o.b. works, cases	lb.	.04¼@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
Arrow "Aerfloted" Specification, c.l. f.o.b. wks., bags	lb.	.03 @	—
Bone, powdered	lb.	.06½@	.12½
Carbon, compressed	lb.	.02¾@	.07
uncompressed	lb.	.02¾@	.07
"Certified," Cabot			
c.l. f.o.b. works, bags	lb.	.02¾@	—
c.l. f.o.b. works, cases	lb.	.04¼@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
"Disperso" f.o.b. La.	lb.	.028 @	.071
f.o.b. Texas	lb.	.02¾@	.07
Drop, bbls.	lb.	.05½@	.14
"Excello," compressed	lb.	.03 @	—
"Fumonex"	lb.	.02½@	.06
"Gastex"	lb.	.02½@	.06
Lampblack	lb.	.07 @	.10
"Micronex"			
c.l. f.o.b. works, bags	lb.	.03 @	—
c.l. f.o.b. works, cases	lb.	.04½@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
"Supreme"	lb.	.02¾@	—
Thermatomic—"P 33"	lb.	—	—
"Thermax"	lb.	—	—
United, "Dixie" and "Kosmos"			
c.l. f.o.b. works, bags	lb.	.02¾@	—
c.l. f.o.b. works, cases	lb.	.04¼@	—
less c.l. f.o.b. works	lb.	.05¼@	.07
"Velvetex"	lb.	.02 @	.05

COMPOUNDING MATERIALS

Aluminum Flake	ton	21.85 @	24.50
Ammonia carbonate, lump	lb.	.10½@	.12
Asbestine	ton	13.40 @	14.00
Barium carbonate	ton	56.50 @	57.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color	ton	12.00 @	18.00
Western prime white	ton	33.00 @	—
Basofor	lb.	.04½@	—
Bentonite	lb.	.02 @	.03
Blanc fixe dry f.o.b. works	ton	75.00 @	90.00
Carrara filler	lb.	.01¾@	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk, precipitated			
Suprex white, extra lt.	ton	60.00 @	70.00
heavy	ton	45.00 @	55.00
Clay, Kaolin, domestic	ton	8.00 @	9.00
Aerfloted, Suprex	ton	6.50 @	8.00
Congaree	ton	9.00 @	—
Dark Blue Ridge	ton		
Dixie	ton		
Langford	ton		
Lexington	ton	10.00 @	22.00
Par	ton		
Tensulite		15.00 @	—
Glues, extra white	lb.	.20 @	.25
medium white	lb.	.16 @	.20
Kalite No. 1	ton	30.00 @	55.00
Kalite No. 3	ton	40.00 @	65.00
Magnesia, carbonate	lb.	.08¾@	.11
Mica	lb.	.04½@	—
Rotten Stone (powdered)	lb.	.02 @	.05
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	— @	2.57
Talc, domestic	ton	12.00 @	15.00
Pyrax A	ton		
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	1.70
Sussex	ton		
Witco	ton	20.00 @	—
Zinc Carbonate	lb.	.09½@	.10½
Zinc Stearate	lb.	.18½@	.22

MINERAL RUBBER

Genasco (factory	ton	40.00 @	42.00
Granulated M. R.	ton		
Hard Hydrocarbon	ton		
Parmr, solid	ton	28.00 @	48.00
Pioneer, MR, aclid	ton	40.00 @	42.00
Pioneer-granulated	ton	50.00 @	52.00
R & H Hydro-Carbon	ton	27.05 @	29.00

SOFTENERS

Acids			
Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulfuric, 66 degrees	cwt.	1.60 @	1.95
Tartaric, crystals	lb.	— @	.26½
Acids, Fatty			
Laurex	lb.	.15 @	.16
Stearex	lb.	.13 @	.17
Stearic, double pressed	lb.	.17 @	.22
Alkalies			
Caustic soda, 76%	cwt.	2.90 @	—
Soda ash, 58% C.L.	cwt.	1.17½@	—
Oils			
Corn, refined, bbls.	lb.	.07 @	.08¾
Cottonseed, crule		— @	.04½
Cycline	gal.	.27 @	.34
Degras (c.l. 100 bbls.)	lb.	.03¾@	—
Less c.l. (10-25 bbls.)	lb.	.04 @	—
Lots less than 10 bbls.	lb.	.04½@	.04½
Fluxrite	lb.	.05½@	.06½
Palm Lagos	lb.	.04 @	.05
Niger	lb.	.03½@	.04
Para-Flux	gal.	.17 @	—
Petrolatum, white	lb.	.08 @	.08½
Pigmentaroil	gal.	.18 @	.23
Pine, steam distilled	gal.	.54 @	.61
destructively distilled	gal.	.54 @	.55
Witco Palm Oil	lb.	.07½@	—
Witco Softener (f.o.b. wks.)	lb.	.02 @	—
Resins and Pitches			
Pitch, Burgundy	lb.	.06½@	.07½
coal tar	gal.	.05½@	.06
pine, 200 lb. gr. wt. bbl.		7.00 @	—
Rosin, grade K, 280 lb. bbl.		— @	4.60
Pigmentar	gal.	.18 @	.23
Tar Retort, 50 gal.	bbl.	13.50 @	15.00
Solvents			
Acetone, pure	lb.	— @	.10
Alcohol, denatured,			
No. 1 bbls.	gal.	.28 @	.29
Benzol, 90%	gal.	.20 @	.21
Carbon, bisulfide	lb.	.05½@	.06¼
Carbon, tetrachloride	lb.	.06¼@	.07
Dryolene (f.o.b. Okla.)	gal.	.10 @	.10½
Gasoline, steel bbls.	gal.	.16 @	—
Naphtha, solvent	gal.	.26 @	.28
Rub-Sol (f.o.b. Okla.)	gal.	.09 @	—
Turpentine, spirits	gal.	— @	.37¼
wood	gal.	— @	.40
destructively distilled	gal.	.35 @	—
Waxes			
Beeswax, white	lb.	.34 @	.36
Carnauba	lb.	.26 @	.28
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06½@	.07
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
Paraffin (c.l.—f.o.b. N. Y.)			
Yellow crude scale	lb.	.02½@	—
White crude scale 124/126	lb.	.02½@	—
Refned, 125/127	lb.	.03⅝@	—
Refined, 128/130	lb.	.03¾@	—
Refined, 135/137	lb.	.05¼@	—
Refined, 138/140	lb.	.07¼@	—

ANTI-OXIDANTS

AgeRite, Gel	lb.		
Powder	lb.		
Resin	lb.		
White	lb.		
Albasan	lb.	.70 @	.75
Antox	lb.		
B-L-E	lb.	.57 @	.60
Neozone	lb.		
Oxynone	lb.	.88 @	.90
Resistox	lb.	.54 @	.57
Retardex	lb.	.35 @	.40
Stabilite	lb.	.57 @	.62
Stabilite Alba	lb.	.70 @	.75
VGB	lb.	.55 @	.66

SPECIALTIES

Aromatics- Rodo	lb.		
Sunproof	lb.	.35 @	.37½
Sponge Paste	lb.	— @	.30
Tonox	lb.	.56 @	.60

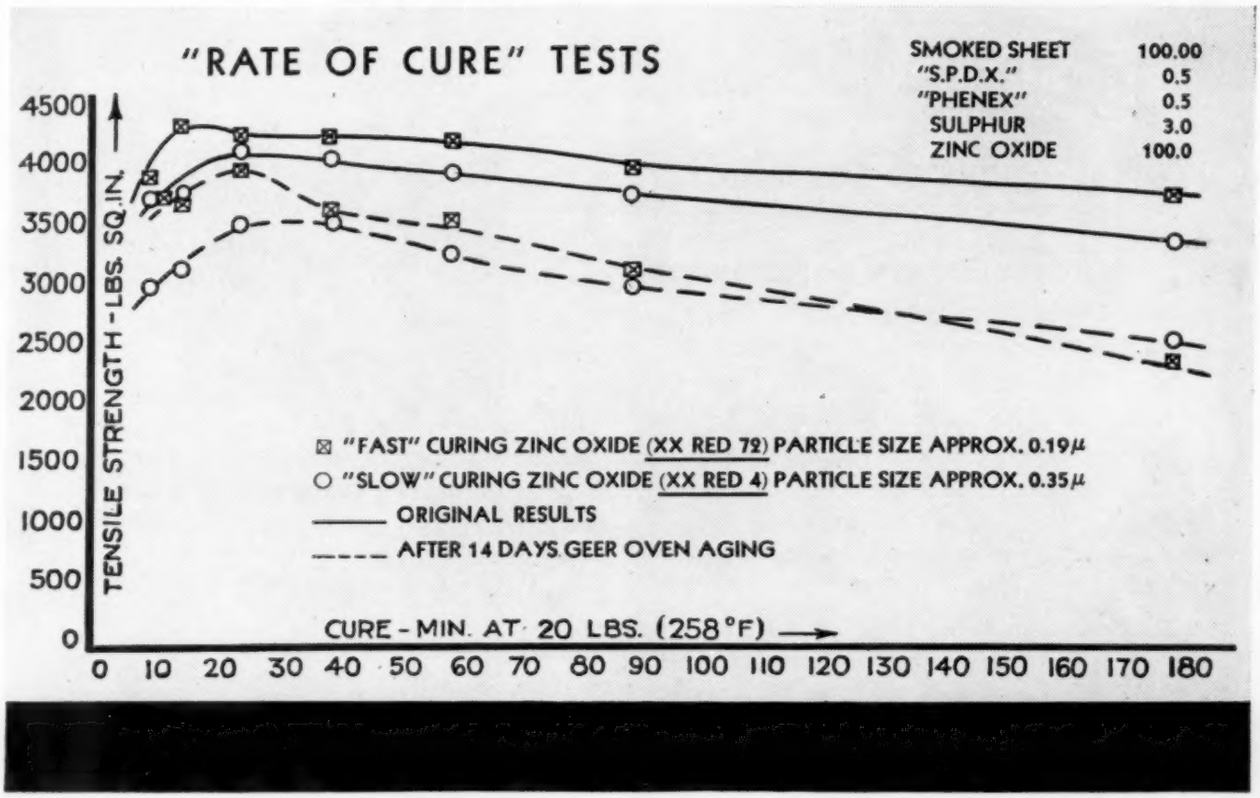
SUBSTITUTES

Black	lb.	.07 @	.09
White	lb.	.08 @	.14
Brown	lb.	.07 @	.11

VULCANIZING INGREDIENTS

Sulfur Chloride (drums)	lb.	.03½@	.04½
Sulfur flour,			
Ref'n'd, 100% pure (bags)	cwt.	2.40 @	2.75
Commercial (bags	cwt.	1.75 @	2.10
Telloy	lb.		
Vandex	lb.		

No. 7 of a series of advertisements showing a comparison of "fast" and "slow" curing zinc oxides with typical accelerators.


"RATE OF CURE" TESTS
SMOKED SHEET 100.00
"S.P.D.X." 0.5
"PHENEX" 0.5
SULPHUR 3.0
ZINC OXIDE 100.0
TENSILE STRENGTH - LBS. SQ. IN.
4500
4000
3500
3000
2500
2000
1500
1000
500
0
⊠ "FAST" CURING ZINC OXIDE (XX RED 72) PARTICLE SIZE APPROX. 0.19μ
○ "SLOW" CURING ZINC OXIDE (XX RED 4) PARTICLE SIZE APPROX. 0.35μ
ORIGINAL RESULTS
AFTER 14 DAYS GEER OVEN AGING
CURE - MIN. AT 20 LBS. (258°F) →
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

THE NEW JERSEY ZINC COMPANY SUPPLIES

Both "FAST" and "SLOW" CURING ZINC OXIDES

New Jersey Zinc

Send for the new booklet "Zinc Oxide—Incorporation in the Banbury Mixer"

The New Jersey Zinc Company

160 Front Street New York